

THE *TACTICS*
OF AELIAN
or
*On the Military
Arrangements of the Greeks*

A New Translation of the Manual that
Influenced Warfare for Fifteen Centuries

REVISED, TRANSLATED AND
EDITED BY
CHRISTOPHER MATTHEW



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Foreword

It is a great pleasure to write the foreword to this new

translation of Aelian's treatise, *On the Military Arrangements of the Greeks*, with commentary by Christopher Matthew. In a world where success in warfare was crucial to the long-term prosperity of any ancient city or people, it is not surprising that specialist military manuals were written on a wide range of topics. Only a fraction of this literature has survived, in the arbitrary way that is common to most ancient writings. For instance, we know that the famous Roman senator Frontinus, who wrote on the water supply of Rome during the Flavian period, also composed two military works: a book on tactics, and a collection of ruses and military anecdotes like the *strategemata* of Polyaeus. The former has not survived, yet the latter has. What sources we have – from writers like Xenophon (4th century BC), Aeneas Tacticus (4th century BC), Athenaeus Mechanicus (1st century BC), Frontinus and Polyaeus (2nd century AD) – offer a wealth of information on diverse topics, from naval engagements and training warhorses to fooling an enemy, surviving siege warfare, and constructing siege engines. Some of this information is plain wacky, but a lot of it is plausible and intriguing, providing valuable insights into the practical logistics of warfare, as well as human ingenuity – and cruelty.

In addition to the authors listed above, there are three other esoteric military texts that have a close affinity to each other: Asclepiodotus' *Techne Tactica* (1st century BC), Arrian's work of the same name (ca. AD 136), and Aelian's text (Aelianus Tacticus, to distinguish him from the Claudius Aelianus of the late 2nd-early 3rd century AD). Aelian's work on the arrangements for military deployment made by Alexander the Great and the Diadochoi is the longest and perhaps the most important. (On the dates and form of these manuals, see A.M. Devine, 'Arrian's "Tactica"', *ANRW* II 34.1 (1993), 312–337, at 315–6, with n. 13.) However, of the three, only Arrian appears to have any personal and professional military experience. Asclepiodotus and Aelian were military theorists rather than generals. In fact, in his *Proemium*, Aelian openly admits that he has no experience of warfare himself, but instead writes as an academic or a philosopher. As Matthew notes in his Preface, Aelian may have used Asclepiodotus' work, but all three treatises are derivative, probably depending directly, or via an intermediary, on a Hellenistic writer called Poseidonius of Rhodes, whose work is also lost (cf. Aelian 1.2; Arrian, *Tact.* 1.1; see also Devine, *op. cit.*, 333, with nn. 30, 31).

Aelian's work is dense, technical and esoteric. Even though he claims he is writing a stylish and polished essay (Praef. 6), it is clear that his text is aimed at the military specialist. At the same time, despite his claims about the exhaustive research he has undertaken, the spirit of the work – given its theoretical genre – is both artificial and idealized, rather than necessarily a reflection of the campaigns that Alexander and his marshals actually fought. It might appear, then, that the value of such a treatise is limited, but that would be a mistake. Apart from the treatise's intrinsic appeal to the modern student of military history and to the wargamer, Aelian's *Tactics* will be of interest to those engaged in the growing field of experimental archaeology, in which the editor himself has considerable expertise.

This book is an important contribution to the cultural heritage

of the Hellenistic period. It redeems the work of an ancient author (Aelian), which was practically unknown. Matthew operates with meticulous efficiency, providing the Greek text alongside the English translation, with an exhaustive commentary and illuminating images and diagrams. In particular, the book explains the operation of the Macedonian phalanx under Philip and Alexander, a force that conquered much of the known world.

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Elizabeth Baynham, *University of Newcastle, Australia*

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CM
2011

Abbreviations

Arc 1613: Aelian, *Tactica*, translation by S. Arcerius (Leyden: Lewis Elzevir, 1613)

K&R 1855: Aelian, *Tactics*, edition by H. Köchly and W. Rüstow (Leipzig: Engelmann, 1855)

Rob 1552: Aelian, Περὶ Στρατηγικῶν Τάξεων Ἑλληνικῶν, edition by F. Robertello (Venice: Andream and Iacobum Spinellos, 1552)

Preface

There are two ancient authors by the name of Aelian whose works have survived to the present day. One by the name of Claudius Aelianus, living in the second and third centuries AD (c. AD 175–235), was the author of a treatise on animals (the *De Natura animalium* or *Περὶ Ζώων Ἰδιότητος* as it was originally called) and a miscellany of anecdotes, maxims, biographical comments and other assorted points of interest (the *Varia Historia* or *Ποικίλη Ἱστορία*). The other writer, living about a century earlier, was the author of this treatise on tactics (*On the Military arrangements of the Greeks* or *Περὶ Στρατηγικῶν Τάξεων Ἑλληνικῶν*). For centuries, the two authors have often been confused with each other and their works were regularly combined into single editions.¹ The tactical writer has subsequently been dubbed Aelianus Tacticus to distinguish him from the later author.

Of Aelianus Tacticus, very little is known other than what he tells us within the pages of his own work. The work is dedicated to the Roman emperor Hadrian (AD 117–138), although Aelian confesses in his introduction that he had originally begun composing the work for the previous emperor Trajan (AD 98–117). Despite another confession that he was somewhat ignorant of

Roman military matters, Aelian spent time in Formiae undertaking some task for Trajan. It was here that he met Sextus Julius Frontinus, a distinguished Roman aristocrat and author of both a treatise on tactics (unfortunately no longer extant) and a volume of military anecdotes called the *Strategemata*. This contact with Frontinus aroused an interest in military matters in Aelian.

Aelian then seems to have immersed himself in the study of tactical manuals and other military writings. In the first chapter of his treatise, he details an exhaustive list of the texts that he has perused in the course of researching his own work (many of which have sadly failed to survive the passing of the centuries). The final result of Aelian's research was a fifty-three-book analysis of the tactical systems used by Alexander the Great and the Successors half a millennium earlier, with the various military aspects arranged into a well thought out and structured order. Aelian may have drawn heavily upon an earlier work on the same theme written by Asclepiodotus (which still survives), as Asclepiodotus' name is conspicuously absent from the list of sources that Aelian provides, and the two works share many similarities (chapters in this edition of Aelian's *Tactics* are cross-referenced to the corresponding sections of Asclepiodotus's *Tactica*). It is also possible that Asclepiodotus had simply released a work on tactics written by Poseidonius, of whom he was a pupil and whom Aelian lists as a source. The question of the true authorship of Asclepiodotus work, and therefore Aelian's potential use of it as a source, will probably never be satisfactorily addressed.

Despite the distance from his own time to his subject matter, Aelian asserts that 'the reader shall find more advantages in this little book than in all their writings [i.e. the military texts that had come before] due to the order and method I have followed', and he claims to have compiled a work far superior to that of any produced by the other learned scholars that had preceded him. Additionally, Aelian illustrated his work with diagrams and images to visually convey some of the more complex terms that he

discussed (a technique also employed by Asclepiodotus), which merely adds to the suspicion that Aelian had borrowed heavily from this earlier work). Thus, in terms of the detail provided by Aelian on the tactical manoeuvres and arrangements of Hellenistic armies, his claim that he produced a superior work to any that had come before it appears to be no idle boast; and this is the great value of his work.

We have no real indication of how well Aelian's work was received when it was first released. However, the fact that it survived to be drawn upon by later writers suggests that it was held in a reasonably high level of regard. Not long after its release, Flavius Arrianus (Arrian) drew in part on Aelian's work for the first thirty-three books of his own examination of tactics – the Τέχνη Τακτική or *Tactical Handbook* (the chapters in this volume are also cross-referenced with the corresponding chapters from Arrian). It has even been theorized that Aelian was actually the author of the Τέχνη Τακτική, a revised version of his own work, and that Arrian later released it himself, although this hypothesis is somewhat contentious.²

Regardless of the subsequent release of Arrian's *Handbook*, the Byzantine emperor Leo IV, otherwise known as 'the Wise' (AD 866–912), incorporated much of Aelian's text, rather than Arrian's, into his own version of the Τέχνη Τακτική in the late ninth century. The oldest surviving manuscript of Aelian's *Tactics* is part of a collection of Classical, Hellenistic and Byzantine military treatises known as the *codex Laurentianus graecus* 55.4, now housed in the Biblioteca Medicea Laurenziana in Florence. This collection of 405 folios dates to the reign of the Byzantine emperor Constantine VII Porphyrogenitus, who reigned immediately after Leo IV (AD 912–959). Three eleventh century manuscripts (the *codex Parisinus graecus* 2442, now in the Bibliothèque Nationale in Paris, the *Codex Vaticanus graecus* 1164, now in the Vatican, and the *Codex Neapolitanus* III-C-26 (284)) all contain the *Tactica*, either wholly or partially, within a collection of other military

texts, and seem to derive from a now lost version of the text known as the *Mazoneus*.

Around 1330, Andreas Telountas copied a number of military texts into the collection now called *Codex Venetus Marcianus graecus* 516 for Cardinal Bessarion, later the Latin patriarch of Constantinople (1395–1472). The text of Aelian's work in this manuscript derives from another lost version, designated the *Bourguetianus*. Both the *Bourguetianus* and the earlier *Mazoneus* manuscripts represent a departure from the *Codex Laurentianus graecus* 55.4 and contain various interpolations and differences between them. An Arabic version of Aelian was published around 1350. Aelian's treatise was first translated into Latin by Theodoras of Thessalonica, and was published in Rome in 1487 by Eucharius Silber. Aelian's *Tactics* was next incorporated into a two-volume set, which also contained the works of Frontinus and Vegetius, called the *Scriptores rei Militaris* released by Franciscus Plato de Bendictis in Bologna in 1495 and 1496.

However, the most popular period for Aelian's work was during the 16th and 17th centuries. The large pike and musket armies that raged across Europe during this time were heavily modelled on the Macedonian phalanx of two millennia earlier, and interest in Hellenistic military manuals saw something of a resurgence. In 1524, a new edition of Aelian in Latin, by Theodore Gaza, was released in Cologne. In the mid-sixteenth century, a Greek copy of Aelian's *Tactics* was combined with the *Extracts* of Leo IV and the *Pneumatica* and *De Automatis* of Heron of Alexandria in a collection now known as the *Codex Burney* 108, housed in the British Library. A similar collection, the *Codex Londinensis add.* 15242, was released in 1540. In 1552, M. Lelio Carani released an edition of the *Tactics* in Italian, titled *Eliano De' Nomi et de gli Ordini Militari*, through Appresso I. Torrentino Impressor Ducale in Florence. In the same year, Francesco Robertello released one of the first 'modern' and singular editions of the work in Greek (albeit medieval Greek), through Andream &

Iacobum Spinellos in Venice, drawing on three earlier manuscripts, predominantly the *Codex Venetus Marcianus graecus* 516. Robertello's edition was emphatically referred to as the *editio princeps*, or 'the best edition', despite the fact that Robertello did not break the *Tactics* into its separate chapters but presented Aelian's work as a single, constant, monologue.³ Despite this appellation, and perhaps because of the lack of segregation within Robertello's edition, Sixtus Arcerius later released what then became known as 'the best edition', a parallel text in both Greek and Latin, through Lewis Elzevir in Leiden in 1613.⁴

The year 1616 saw the release, through Eliot's Court Press in London, of an English translation of Aelian's work, heavily annotated with commentaries by Captain John Bingham. This edition, written from Bingham's garrison at Woudrichem in Holland, was dedicated, much like the work of Aelian before him, to the reigning monarch of the time (in Bingham's case, Charles I) as a manual on how to conduct his armies. A revised edition of Bingham's translation was released in London in 1631 by Ralph Mab.

With the decline in the use of pike and musket armies in Europe, interest in Hellenistic military manuals also witnessed a down-turn in popularity. In 1757, a parallel French/Greek edition of the *Tactics*, called *La milice des Grecs*, was compiled by M. Bouchaud de Bussy and published by C.A. Jombert in Paris. It was not until 1814 that a new English edition was edited by Henry Augustus, drawing upon several earlier editions and commenting on some of the discrepancies within them (reprints of this edition, released through E. Kerby in London, are still available, albeit with some of the illustrations missing, doubled up or cut off). The year 1855 saw the release of an edition of Aelian's *Tactics*, coupled with the *Tactica* of Asclepiodotus and based upon the *Codex Laurentianus graecus* 55.4, by Köchly and Rüstow through Engelmann in Leipzig, although [chapters 36–49](#) are missing from this work (due to them not being present in the *Codex*

Laurentianus) and [chapters 30](#) and [35](#) differ considerably from other Greek editions of the text.

In 1968, a reworked and combined version of the two editions compiled by Bingham in the seventeenth century was released by De Capo Press in New York. This edition combined the different notes that accompanied the two versions of Bingham's text (the 1616 edition only had notes attached to [chapters 1–29](#)). In a volume of the *The Ancient World* released in 1989, A.M. Devine presented another translation of the text in English based upon the *Codex Laurentianus graecus* 55.4 (see A.M. Devine, 'Aelian's Manual of Hellenistic Military Tactics: A New Translation from the Greek with an Introduction', *AncW* 19.1–2, 1989, pp. 31–64). This was the last time a readily accessible edition of Aelian's masterwork on tactics and strategy was released, until now.

This new edition draws upon several of the earlier versions of the text (including Robertello's 1552 "best edition", the 1613 Arcerius edition, Bingham's 1616 edition, Augustus' 1814 edition, and the 1855 Köchly and Rüstow edition) to bring Aelian's *Tactics* to the modern reader. The English of the earlier editions has been converted into more modern vernacular to make the concepts contained within the passages more easily understood. Consequently, while still adhering to the flavour of both the Greek and the earlier editions, the text of this new edition has been reworked, in terms of both the punctuation and the sentence structure, to make the passages flow in a more readable format. This means that, in many places, extra words have been inserted into the text or that the translation may not totally adhere to the tense and structure of the ancient Greek. For example, Bingham's translation, following the style of the time, appears exceptionally long-winded to the modern reader; with an abundance of subordinate clauses, which could have, if followed precisely, made a single sentence go for more than half a page in some places. To make such literary constructs, and subsequently the concepts contained therein, easier to comprehend, such sentences have

been broken into a number of individual clauses. Doing so has required the insertion of additional words, terms and phrases, into these translated sentences so that they follow proper grammar and syntax. However, while this means that the translated passages may not exactly adhere to the original Greek of the various editions used as source material, in doing so, the utmost care has been taken to ensure that the essence of the passage has not been lost. All of the key terms found throughout the text have also been given in both their Greek and Anglicized forms so that a reader will not be inhibited by the lack of a working knowledge of the classical languages.

Translating, for lack of a better term, a work from Medieval to Classical Greek, and from 17th and 19th century English into modern English, has presented its own set of unique challenges. Not only does the Medieval Greek utilize different characters from both Classical and modern Greek (and even from each other in the 1552 and 1613 editions), but the basic printing techniques used to produce the early editions of the *Tactics* has left some parts difficult to read due to faint text, while in other areas the text, particularly in regards to the accents and punctuation (which also differ between the 1552 and 1613 editions), is blurred due to a running of the ink (see [Figure 1](#)). This has resulted in many words appearing to be misspelt (although it is often hard to distinguish these errors due to the blurred or faint nature of the text). Comparing several different editions of the text has allowed for some of the discrepancies between the various editions of the work to be identified (although, due to the differences in the editions, no one version is more correct than another). Notes accompanying each chapter outline some of these identified differences and will also provide additional information that will aid the reader in coming to terms with the various technical and historical aspects of the work. Some diagrams not found in the earlier texts are also included in the notes to help explain more complex military issues (for example, see the notes for [chapters 10](#)

and 31).

Even the basic layout of Aelian's work differs amongst the various earlier editions. For example, in Bingham's 1616 edition, the Köchly and Rüstow 1855 edition, and in Devine's 1989 version, the text of [chapter 22](#) in this new edition is broken into two separate parts. This is no doubt due to the separation of these sections in the *Codex Laurentianus graecus* 55.4, which was used as a source. However, the 1613 Arcerius and 1814 Augustus editions, which have used other manuscripts as their source, have these two sections combined. This current version follows the Arcerius/Augustus format by combining these two sections into a single chapter. Similarly, [chapter 24](#) is broken into two parts in Bingham's 1616 edition, but the two are combined in this version as per the Arcerius/Augustus examples. Furthermore, Bingham's 1616 edition merges [chapters 26](#) and [27](#) together, but in this new edition they have been left separate, also as per the Arcerius and Augustus editions. Finally, in Bingham's 1616 edition, [chapters 37](#) and [38](#) are placed in the opposite order to how they appear in the Arcerius and Augustus editions. This version, again, follows the format set out by Arcerius and Augustus.

Syllochismus est, cum primæ Decuriæ secunda adiungitur: nimirum primi versus Lochago, secundi versus Lochagus: ac primum Lochagum sequenti Epistatæ, secundæ Decuriæ Epistatæ. ac sic deinceps. Parastata autem vocatur, quisquis iugat. ut, cum primæ Decuriæ Lochago secundæ Decuriæ Lochagus a latere adstat: ac similiter primæ decuriæ Epistatæ etiam secundæ decuriæ Epistatæ. atq; ita deinceps. Quum igitur iuxta secundam decuriam tertia aut quarta, ac sic porro reliquæ iunguntur, id Syllochismus vocatur.

ἑαρίθη, καὶ οὕτως καὶ τὸ ἐξῆς οἱ λοιποὶ, τὰ τοιαῦτα (συλλοχισμοὶ καλεῖται).

ΣΥΛΛΟΧΙΣΜΟΣ δὲ ἐστίν, ὅταν τῷ πρώτῳ λόχῳ ἕτιον ἑαρίθῃ. τῷ μὲν δὲ πρώτῳ εἶχον λοχαγῶν, ὁ λοχαγὸς δὲ δευτέρου εἶχον. τῷ δὲ ὀπιθεῖν ὀπιστάτῃ δὲ πρώτῳ λοχαγῶν ὁ δὲ δεύτερος λόχος ὀπιστάτης καὶ καὶ ἐξῆς. παρὰ ταῦτα δὲ καλεῖται παρὰ τὸ ζυγῶν, οἷον τῷ τῷ πρώτῳ λόχῳ λοχαγῶν, ὁ τῷ δευτέρῳ λόχῳ λοχαγός. καὶ ὁμοίως τῷ τῷ πρώτῳ λόχῳ ὀπιστάτῃ, καὶ τῷ δευτέρῳ λόχῳ ὀπιστάτης, καὶ καὶ τὸ ἐξῆς. ὅταν οὖν καὶ τὸν δευτέρον λόχον τρίτῳ παρῇ, ἢ πρὸς

Κ Ε Θ.

Συλλοχισμὸς δὲ ὅστις, ὅταν τῷ παρῶνι λόχῳ, ἕτερος παρῇ. τῷ μὲν δὲ παρῶνι εἶχον λοχαγῶν, ὁ λοχαγὸς δὲ δευτέρου εἶχον. τῷ δὲ ὀπιθεῖν ὀπιστάτῃ δὲ πρώτῳ λοχαγῶν, ὁ δὲ δευτέρου λόχος ὀπιστάτης καὶ καὶ ἐξῆς. παρὰ ταῦτα δὲ καλεῖται παρὰ τὸ ζυγῶν, οἷον τῷ τῷ παρῶνι λόχῳ λοχαγῶν, ὁ τῷ δευτέρου λόχῳ λοχαγός. καὶ ὁμοίως τῷ τῷ παρῶνι λόχῳ ὀπιστάτῃ, καὶ τῷ δευτέρου λόχῳ ὀπιστάτης, καὶ καὶ ταῦτα ἐξῆς. ὅταν οὖν καὶ τὸν δευτέρον λόχον τρίτῳ παρῇ, ἢ πρὸς τοῦτον οἱ λοιποὶ τὰ τοιαῦτα συλλοχισμοὶ καλεῖται.

Figure 1: Examples of Chapter 6 of Aelian's *Tactics* from Robertello's 1552 edition (top) and Arcerius' 1613 edition (bottom).

Another difference between the editions concerns the selection of chapters. Köchly and Rüstow's 1855 edition, for example, does not contain [chapters 36](#) or [37](#) as they appear in other editions. Instead, the gist of these two chapters is summarized, along with parts of other chapters, within a different version of [chapter 35](#). Similarly, the 1855 edition does not contain [chapters 40–48](#), but summarizes their content within [chapters 38](#) and [39](#), or omits it entirely. In some places, whole sections of a particular chapter are found in one or more editions, but not in others. Robertello's 1552 edition, for example, contains an additional paragraph at the end of [chapter 48](#) that is found in no other edition.

A further problem is the table of contents for Aelian's work. Both Bingham's 1616 edition and Augustus' 1814 edition contain an arbitrary table of contents (in English) for the ease of defining and finding the relevant sections of the work. Arcerius' 1613 edition also contains a table of contents in both Greek and Latin but differs in its terminology from the later English editions. This table of contents is absent from Robertello's 1552 edition, no doubt due to the work being presented in a single monologue rather than in separate chapters. Additionally, the Köchly and Rüstow 1855 edition and the Devine 1989 edition do not contain a basic table of contents, but summarize the contents into a list of 113 separate points that, unfortunately, do not fully cover the contents for many of the last chapters of the book, which are absent from the text. This use of summarized points in the 1855/1989 editions is no doubt due to the source material used for the editions separating the *Tactics* into only forty-two chapters (with [chapters 36–49](#) either missing or different from other versions) whereas the 1613 and 1814 editions have the work separated into fifty-four and fifty-three chapters respectively. Consequently, for this new edition, a basic table of contents, following the examples set out by Bingham and Augustus, has been provided. The wording of this table of contents has been

based, in part, upon Arcerius' 1613 edition and the summary points found at the beginning of the 1855/1989 editions.

Another problem with the various editions is that, in some cases, the tenses and spelling of some words, or even the whole word itself, differs. In this new edition, when such a thing has been encountered during the translation and editing of the text, the most commonly used form of the word across all of the editions examined is incorporated into the text while notes accompanying the passage will outline the less common differences and the editions in which they are found. As such, this new edition of the *Tactics* can be regarded as something of a hybrid, incorporating elements from several different versions of the text to create a whole (yet original) version of the work.

Lastly, some of the illustrations that accompanied earlier editions of the text have been completely redrawn. Some images, such as those that accompanied [chapter 49](#), seem quite superfluous as the text of the chapter is relatively clear, so these images have been left out of this edition. Furthermore, in many of the 16th and 17th century manuscripts, the figures used to demonstrate the various formations and manoeuvres undertaken by the Hellenistic phalanx were drawn as contemporary 16th or 17th century pikemen, or were simply represented as small dots or letters. Additionally, in some instances, the illustrations in the earlier editions do not correlate with the text that they accompany.⁵ These images have been redrawn with basically rendered representations of the Hellenistic men-at-arms of the 4th and 3rd centuries BC and composed in a way that will (hopefully) make the concepts being portrayed easier to understand and correlate more closely with the text, just as Aelian wanted.

Αἰλιανός Τακτικός
(Aelianus Tacticus)

Περὶ Στρατηγικῶν Τάξεων
Ἑλληνικῶν
(*On the Military Arrangements of the
Greeks*)

Προοίμιον

Τὴν παρὰ τοῖς Ἑλλήσι τακτικὴν θεωρίαν ἀπὸ τῶν Ὀμήρου χρόνων τὴν ἀρχὴν λαβοῦσαν, αὐτόκρατορ Καῖσαρ υἱὲ θεοῦ [Ἀδριανέ]^a σεβαστέ, πολλοὶ τῶν πρὸ ἡμῶν συνέγραψαν οὐκ ἔχοντες, ἦν ἡμεῖς ἐν τοῖς μαθήμασιν ἐπιστεύθημεν ἕξιν ἔχειν. ἑμαυτὸν δὲ πείθων [ἡβουλήθην]^b ταύτην συντάξαι τὴν θεωρίαν, ὅτι τοῖς ἡμετέροις οἱ μεθ' ἡμᾶς πρὸ τῶν ἀρχαιοτέρων προσέξουσι [συγγράμμασιν]^c. Τῆς δὲ παρὰ Ῥωμαίοις [περὶ]^d τὸ μέρος τοῦτο δυνάμεως καὶ ἐμπειρίας οὐκ ἔχων γινῶσιν – δεῖ γὰρ ὁμολογεῖν τάληθ' – ὅκνω κατειχόμεν περὶ [τὸ]^e συγγράφειν καὶ παραδιδόναι τὸ μάθημα τοῦτο, ὥς [ἀπημαυρωμένων]^f καὶ [πάλαι]^g μηδὲν ἔτι χρήσιμον τῷ βίῳ μετὰ τὴν ἐφευρεθεῖσαν ὑφ' ὑμῶν διδασκαλίαν. ἐπεὶ δὲ [τῷ θεῷ πατρίσου Νέρουα συμβαλῶν]^h παρὰ Φροτίνῳ τῷ [ἐπισήμων ὑπατικῶν]ⁱ ἐν Φορμίσαις ἡμέρας τινὰς διέτριψα δόξαν [ἐπενεγκαμένῳ]^j περὶ τὴν ἐν τοῖς πολέμοις ἐμπειρίαν. συμβαλὼν τ' ἀνδρὶ, εὖρον οὐκ ἐλάττονα σπουδὴν ἔχοντα εἰς τὴν παρὰ τοῖς Ἑλλήσι τεθεωρημένην μάθησιν, ἡρξάμην οὐκέτι περιφρονεῖν τῆς τῶν τακτικῶν συγγραφῆς, οὐκ ἂν [απουδάζεσθαι]^k παρὰ Φροντίνῳ δοκῶν αὐτήν, εἶπερ τι χεῖρον ἐδόκει τῆς Ῥωμαϊκῆς διατάξεως περιέχειν [αὐτήν].^l

Πεποικῶς οὖν πῶποτε συγγράμματος διατύπωσιν, μήπω δὲ πρὸς ἔκδοσιν ἐτοίμην [εἶναι].^m διὰ τὴν σὴν ἀνυπερβλήτον, αὐτόκρατορ, ἀνδρείαν τε καὶ ἐμπειρίαν, δι' ὧν πάντας ἀπλῶς τοὺς ποτὲ γενομένους κατὰ πόλεμον στρατηγοὺς ὑπερβάλλεις, παρωρμήθην [τελεῖν]ⁿ τὴν πραγματείαν καλὴν σφόδρα. καὶ τοῖς ἐσπουδακόσι περὶ ταύτην τὴν θεωρίαν παραγκωνίσασθαι

δυναμένην τὰ τῶν ἀρχαίων Ἑλλήνων συντάγματα. σαφηνείας [τε]ο γὰρ [ἔνεκεν]p [διαβεβαιούμενος]q λέγω τοὺς ἐντευξομένους τῇδε τῇ συγγραφῇ ἔνθεν μᾶλλον ἢ παρὰ τῶν πρεσβυτέρων στοιχειωθήσεσθαι. [διὰ τὸ]r κατὰ τάξιν ἕκαστα δεδηλωσθαι. οὐκ ἐθάρσησα μέντοι πέμψαι σοι τὸ σύγγραμμα τηλικούτων πολέμων στρατηγῶ, μή πως εὐτελέστερα φανῇ τὰ δι' [ἡμῶν]s ὑφηγούμενα, [ἂν δὲ ταῖς ἐπινοίαις σοῦ ταῦτά]t παραβάλης. [ἐὰν δὲ]u ὥς Ἑλληνικὴν θεωρίαν [καὶ γλαφυρὰν ἱστορίαν],v ἐν ἧ καὶ τοῦ Μακεδόνο^ς Ἀλεξάνδρου τὴν ἐν ταῖς παρατάξεσιν ἐπιβολὴν θεωρήσεις, ψυχαγωγίαν παρέξει σοι τὸ σύγγραμμα.

Διὰ μέντοι τὰς ἀσχολίας προέγραψα τὰ κεφάλαια τῶν ἀποδεικνυμένων, ἵνα πρὸ τῆς ἀναγνώσεως τοῦ βιβλίου, τὸ ἐπάγγελμα τοῦ συγγράμματος δι' ὀλίγων [κατανοήσης]w καὶ οὖς ἂν [ἐπιζητήσεῖς]x ἀναγνωσθῆναι τόπους [ῥαδίως]y εὐρίσκων τοὺς χρόνους μὴ τρίβης.

Introduction

The Greek art of organizing an army, Emperor Caesar Augustus Hadrian, son of a god, the antiquity of which reaches back to the age in which Homer lived, has been committed to writing by many whose skill in ‘mathematics’ was not reputed to have been equal to mine.¹ As such, I was forced to think it possible for me to comment on these matters and that posterity should regard and esteem my labour rather than that of those who have handled the same arguments before me. However, by weighing again my own ignorance (for I must confess a truth) in that skill and practice of arms that is so esteemed among the Romans, I withheld from fear of reviving a science half dead, as it were, and, since the invention of another by your ancestors, altogether out of request and unregarded. During my coming to Formiae to do my duty for the emperor Nerva – your majesty’s father – it was my fortune to spend some time with Frontinus, a man of consular dignity and of great reputation due to his experience in military affairs.² Conferring with him I perceived, and he imparted, no less an importance of the Greek discipline of arms than the Roman, and I began to view the Greek manner in a more positive light – considering that Frontinus would not have discussed it had he thought it inferior to the Roman way.

Therefore, having framed a project for this work in the past, yet not daring to publish it in light of your Majesty’s incomparable valour and experience – which make you famous above all generals that ever were, without exception – I have of late taken it again in hand and finished it; being (if I do say so myself) a work

both worthy to be associated with, and of sufficiency, especially for those who are studious of the art, to obscure the credit of the ancient tacticians. For in respect of their works I do boldly dare to affirm that the reader shall find more advantages in this little book than in all their writings due to the order and method I have followed. However, I do reservedly offer it to your Majesty, who has been General of so many great wars, lest it prove to be too slender a present and altogether unworthy of your favoured view. And yet, if your Majesty shall be pleased to think of it as a Greek 'theorem' or some other discourse, it will give you some small delight because you will find, contained within, Alexander of Macedon's manner of marshalling his army.³

Additionally, as I am not ignorant of your Majesty's more weighty affairs, I have separated the work into chapters. As such, you may flick to the end without reading the rest of the book, should you wish to, and find the passages you desire to peruse without loss of time.

Κεφάλαια τοῦ βιβλίου

α' Περί τῶν τὰ τακτικά συνταζάντων.

β' Ὅτι τοῦ μαχομένου γένους ἑννέα διαφοραί· ὀπλιτῶν, πελταστῶν, ψιλῶν, ἱππέων δορατοφόρων, ἱππέων ἀκοντιστῶν, ἱππέων τοξοτῶν, ἱππέων καταφράκτων, ἀρμάτων, ἐλεφάντων.

γ' Πῶς οἱ ἀρχαῖοι ὥρισαντο τὴν τακτικὴν τέχνην.

δ' Τί ἐστὶ λόχος καὶ τί καταλοχισμός.

ε' Πόσων ἀνδρῶν οἱ ἀρχαῖοι τοὺς λόχους ἔταξαν, καὶ ποῖος αὐτῶν ἀριθμὸς πρὸς παράταξιν ἐπιτήδειος.

ς' Τί ἐστὶ συλλοχισμός.

ζ' Τί ἐστὶ βάθος τῆς φάλαγγος. Τί ἐστὶ ζυγεῖν αἱ τί στοιχεῖν.

Ὅτι κατὰ τὸ πλεῖστον μετὰ τὴν τῶν ὀπλιτῶν φάλαγγα ὀπίσω τάσσεται τὸ τῶν ψιλῶν καὶ ἔτι τούτων ὀπίσω τὸ τῶν ἱππέων.

η' Ὅτι οἱ πλείους τὸν ἀριθμὸν τῆς τῶν ὀπλιτῶν φάλαγγος μυρίων ἑξακισχιλίων τριακοσίων ὀγδοήκοντα τεσσάρων ἐποίησαν ἀπὸ μονάδος κατὰ διπλασιασμὸν ἐκβαίνοντα καὶ σύμμετρον ὄντα. Ὅτι ἤμεισιν τούτου τὸν τῶν ψιλῶν, ἔτι δὲ τούτου ἤμεισιν τὸν τῶν ἱππέων καὶ διὰ τί.

θ' Ἡ φάλαγξ.

ι' Πόσοι ἡγεμόνες ἐν τῇ φάλαγγι.

ια' Πόσον τόπον κατέχει ὁ ὀπλίτης τεταγμένος.

ιβ' Πῶς δεῖ καθοπλιζέσθαι τοὺς ὀπλίτας, καὶ μέτρα τῶν ὅπλων καὶ δοράτων.

ιγ' Ὅτι δεῖ τὸ πρῶτον ζυγὸν ἀρίστων ἀνδρῶν εἶναι καὶ στομώματος τάξιν ἐπέχειν.

ιδ' Ὡς ἡ Μακεδονικὴ φάλαγξ ἐν τούτοις παρετάσσετο.

ιε' Περὶ τῶν ψιλῶν· πῶς αὐτοὺς δεῖ τετάχθαι.

ις' Ὅτι χιλίους εἴκοσι τέσσαρας λόχους τῶν ψιλῶν δεῖ τετάχθαι.

ιζ' Περὶ τῆς εὐχρηστίας τῶν ἀκροβολιστῶν.

ιη' Πόσα εἶδη τῆς ἱππικῆς συντάξεως τοῖς ἀρχαίοις ἐπενοήθη.

ιθ' Πῶς τῶν ῥομβοειδῶν ἱππέων.

κ' Ὅτι αἱ εἴλαι ποτὲ μὲν πρὸ τῆς φάλαγγος τάσσονται, ποτὲ δὲ ἐκ δεξιῶ· καὶ εὐωνύμων, ποτὲ δὲ ὀπισω τῶν ψιλῶν.

κα' Περὶ τῶν ἱππέων.

κβ' Περὶ συντάξεως ἐλεφάντων καὶ δρεπανηφόρων.

κγ' Περὶ τῶν ὀνομάτων, οἷς χρώμενοι οἱ τακτικοὶ τὰ παραγγέλματα πρὸς τὸν πόλεμον χρειώδη σημαίνουσιν.

κδ' Τί ἐστὶ κλίσις καὶ μεταβολή καὶ ἐπιστροφή.

κε' Τί ἐστὶ στοιχεῖν. Τί ἐστὶ ζυγεῖν. Τί ἐστὶν εἰς ὀρθὸν ἀποδοῦναι.

κς' Ὅτι ἐκάστου γένους ἐξελιγμῶν εἶδη γ, ὁ μὲν Μακεδονικός, ὁ δὲ Λακωνικός, ὁ δὲ Κρητικός ἢ χόριος ἢ Περσικός.

κζ' Πῶς ἐν τοῖς λόχοις γίνεται ὁ Μακεδονικός ἐξελιγμός, καὶ εἰς τί χρειώδης· καὶ ὁμοίως ὁ Λάκων καὶ Κρητικός.

κη' Ὅτι διπλασιασμῶν γένη δύο ἢ κατὰ ζυγὰ ἢ κατὰ στίχον.

κθ' Τί ἐστὶ πλαγία φάλαγξ καὶ τί ὀρθία. Τί ἐστὶ λοξὴ φάλαγξ.

λ' Τί ἐστὶ παρεμβολή. Τί ἐστὶ πρόσταξις. Τί ἐστὶν ἔνταξις. Τί ἐστὶν ὑπόταξις.

λα' Πῶς ἐπὶ δόρυ περισπᾶται τὰ συντάγματα καὶ πῶς ἀποκαθίσταται, καὶ πῶς ὁμοίως ἐπ' ἀσπίδα.

λβ' Πῶς ἐπὶ τὸ δεξιὸν κέρας ἢ φάλαγξ πυκνοῦται καὶ πῶς ἀποκαθίσταται. Πῶς ἐπὶ τὸ εὐώνυμον κέρας πυκνοῦται ἢ φάλαγξ καὶ πῶς ἀποκαθίσταται. Πῶς ἐπὶ μέσην τὴν φάλαγγα πύκνωσις γίνεται καὶ πῶς ἀποκαθίσταται.

λγ' Ὅτι τὰ εἰρημένα παραγγέλματα ἀναγκαῖά ἐστι πρὸς τὰς αἰφνιδίους ἐφόδους πολεμίων.

λδ' Ὅτι τὰς δυνάμεις ἐθίζειν δεῖ τοῖς παραγγέλμασι χρῆσθαι ἢ διὰ σημείων ἢ διὰ φωνῆς ἢ διὰ σάλπιγγος.

λε' Περὶ πορειῶν καὶ ἐπαγωγῆς καὶ παραγωγῆς καὶ πῶς
κοιλέμβολον.

λς' Τί ἐστὶ παραγωγή.

λζ' Τί ἐστὶ φάλαγξ ἀντίστομος.

λη' Τί ἐστὶ φάλαγξ ἀμφίστομος.

λθ' Τί ἐστὶ διφαλαγγία ἀντίστομος.

μ' Τί ἐστὶ διφαλαγγία περίστομος.

μα' Τί ἐστὶ φάλαγξ ὁμοιόστομος πῶς πλινθίων.

μβ' Τί ἐστὶ φάλαγξ ἑτερόστομος.

μγ' Περὶ τῶν ῥομβοειδῶν ἱππέων. Τί ἐστὶ φάλαγξ μηνοειδής.

μδ' Τί ἐστὶ ἑτερομηκης. Τί ἐστὶ φάλαγξ πλαγία.

με' Περὶ τῶν ῥομβοειδῶν ἱππέων. Τί ἐστὶ ἐπικάμπιος ἐμπροσθία.

μς' Τί ἐστὶ ἐπικάμπιος ὀπισθία καὶ τί φάλαγξ κυρτή.

μζ' Περὶ τῆς τετράγωνος τῶν ἱππέων καὶ τί φάλαγξ ἔμβολον.

μη' Τί ἐστὶ φάλαγξ πλαίσιον καὶ τί φάλαγξ πεπλεγμένη.

μθ' Τί ἐστὶν ὑπερφαλάγγησις καὶ τί ὑπερκέρασις.

ν' Ὅτι πέντε τρόποι τῆς τῶν σκευοφόρων ἀγωγῆς, καὶ πότε δεῖ
ἐκάστω τρόπῳ χρῆσθαι.

να' Περὶ τῶν ἐξοπλισίας παραγγελμάτων, καὶ πῶς δεῖ μὴ
ἀμφίβολα αὐτὰ εἶναι.

νβ' Περὶ τῶν σιωπῆν καὶ προσέχειν.

νγ' Περὶ τῶν παραγγελμάτων.

The Contents of the Chapters of the Book

1. On the arrangement of tactics.
2. On the nine distinct parts of the army: hoplites, peltasts, light troops, lancers, mounted javelineers, mounted archers, heavy cavalry, chariots and elephants.
3. How the ancients defined the tactical arts.
4. What is a file and the distribution within the file.
5. How men of ancient times were arranged in the file and the numbers that make up the formation.
6. Joining files.
7. The depth of the phalanx, its width and the files. The division of the men of the phalanx and the position of the light troops and cavalry.
8. How the phalanx is made up of various numbers increasing from one to 16,384 men; how there is half this number of light troops and half this number again of cavalry.
9. The phalanx.
10. The officers within the phalanx.
11. How large an interval each armed man occupies.
12. How the men are armed and the size of the shield and spear.
13. How the best men hold the positions at the front of the formation and where the 'mouth' of the line is located.
14. How the Macedonian phalanx is organized.
15. Light troops, how they are organized.
16. On the 1,024 files of light troops.
17. On the use of missile troops.

18. What the ancients thought about cavalry formations.
19. On the cavalry rhombus formation.
20. How the cavalry is positioned before or to the right of the phalanx or behind the light infantry.
21. Concerning cavalry.
22. The arrangement of elephants and scythe-bearing chariots.
23. The names and uses of the tactical manoeuvres conducted by the army.
24. Facing, turning and wheeling.
25. Forming files and ranks and restoring the original position.
26. Counter-marching, the different techniques: the Macedonian, the Lakonian and the Cretan/Choral/Persian methods.
27. How to execute the Macedonian, lakonian and the Cretan counter-march and their uses.
28. Doubling, either by rank or by file.
29. The transverse phalanx, the even phalanx and the oblique phalanx.
30. *Parembolē*, *prostaxis*, *entaxis* and *hypotaxis*.
31. Wheeling to the left and right, and returning to the original position.
32. Closing the formation to the right, left and middle, and returning to the original position.
33. Concerning sudden movements of the army.
34. The advantages and use of commands given by signal, voice and trumpet.
35. Marching, induction and deduction, and the *koelembolus* formation.
36. *Paragogē* or 'deduction'.
37. The *antistomos* formation.
38. The *amphistomos* formation.
39. The *antistomos diphalangarchia* formation.
40. The *peristomos diphalangarchia* formation.
41. The *homoistomos* formation and the *plinthium* formation.
42. The *heterostomos* formation.

43. The cavalry rhombus and the 'half-moon' infantry formation.
44. The *heteromēkēs* cavalry formation and the transverse infantry phalanx.
45. The cavalry rhombus and the *epicampios emprostia* infantry formation.
46. The *epicampios opisthia* infantry formation and the *kyrtē* infantry formation.
47. The square cavalry formation and the infantry wedge.
48. The *plaision* infantry formation and the *peplegmenē* infantry formation.
49. Outflanking and 'over-fronting' an enemy formation.
50. The various methods for leading the baggage train, and when each method should be used.
51. The words of command for those under arms, and how encompassing they should be.
52. On silence and attention.
53. Various words of command.

α' Περὶ τῶν τὰ τακτικά συνταζάντων

Πρῶτος μὲν ὢν ἴσμεν δοκεῖ τὴν τακτικὴν θεωρίαν Ὅμηρος ἐπεγνώκῃναι θαυμάζειν [τε]^a τοὺς ἐπιστήμονας αὐτῆς, ὥσπερ [Μνεσθέα]^b

τῷ δ' [οὔτις μὲν]^c ὁμοῖος ἐπιχθόνιος γένετ' ἀνὴρ κοσμήσαι ἵππους τε καὶ ἀνέρας ἀσπιδιώτας.

καὶ περὶ τῆς καθ' Ὅμηρον τακτικῆς ἐνετύχομεν συγγραφεῦσι Στρατοκλεῖ καὶ Ἑρμείᾳ, καὶ Φρόντωνι τῷ καθ' ἡμᾶς [ὑπατικῷ ἀνδρὶ].^d ἐξειργάσαντο δὲ τὴν θεωρίαν, Αἰνείας τε διὰ πλειόνων [ὁ]^e καὶ στρατηγικὰ βιβλία [ἰκαῶς]^f συνταζάμενος, ὢν ἐπιτομὴν ὁ Θετταλὸς Κινέας [ἐποίησε],^g Πύρρος τε ὁ Ἑπειώτης τακτικά [συνέγραψε]^h καὶ Ἀλέξανδρος ὁ τοῦτου υἱὸς καὶ Κλέαρχος. ἔτι δὲ Πausanίας, Εὐάγγελος τε καὶ Πολύβιος ὁ Μεγαλοπολίτης, ἀνὴρ πολυμαθὴς Σκιπίωνι συγγενόμενος, Εὐπόλεμος τε καὶ Ἰφικράτης. ὁ δὲ στωικὸς Ποσειδώνιος, καὶ τέχνην τακτικὴν ἔγραψεν. ἄλλοι τε πλείονες, οἱ μὲν εἰσαγωγάς, ὡς Βίων, οἱ δὲ καὶ τοπικὰς πραγματείας ἐξέδωκαν. οἷς πᾶσιν ἐγκυρήσας ἀπειρόκαλον ἡγοῦμαι πάντων μεμνησθαι. ἐπέγνων δέ, ὡς ἔπος εἰπεῖν, τοὺς συγγραφεῖς ὡς εἰδόσι τὰ πράγματα τοῖς ἀνθρώποις συντεταχότας. ὅπερ οὖν αὐτοὶ [πρῶτοι]ⁱ ἐφιέμενοι τῆς [γνώσεως]^j τοῦ πράγματος ἐπάθομεν, μήτε τοὺς ὑφηγησομένους εὐρίσκοντες, μήτε ἀποχρώντως πρὸς παράδοσιν [ἀποβάλλοντες]^k τὰς τῶν πρὸ [ἡμᾶς]^l ἐκδόσεις

ἔχειν, πειρασόμεθα καθ' ὅσον οἶόν τέ ἐστι μὴ [ἄλλοις]m τὸ αὐτὸ παθεῖν ποιῆσαι. ὁσάκις δ' ἂν μοι ὁ λόγος [ἐξανήσῃ ἐν τοῖς πῶς παραστῆσαί τῇ]n τῶν θεωρημάτων, ἐπίκουρον παραλήψομαι ἐπὶ καταγραφῆς τὴν τῶν [χρημάτων]o διατύπωσιν, [ἵνα]p τὴν ὄψιν τῇ νοήσῃ συλλήπτορα [παράσχων].q αὐταῖς μέντοι πειράσομαι ταῖς τῶν ἀρχαίων χρῆσθαι ἐκάστου λέξεσιν, ἵνα καὶ τοῖς [ὀνόμασι]r καὶ τῇ συνηθείᾳ τῶν πολλάκις παρ' αὐτοῖς]s λεγομένων [ὀνομάτων]t συγγυμνασθέντες οἱ τῇδε τῇ γραφῇ καθάπερ εἰσαγωγῇ προσέχοντες ἐν ἔθει γένωνται τοῖς εἰρημένοις ὀνόμασι παρὰ τοῖς τακτικὰ συντάξασι, καὶ μὴ ξενίζωνται, [ὅταν τοῖς ἐκείνων]u ἐντυγχάνωσιν. οἶμαι δὲ τὸν ἅπαξ εἰσαχθέντα ταῖς ὑφ' ἡμῶν παραδιδομέναις ὁδοῖς εὐμαρῶς καὶ τὰ τῶν πρεσβυτέρων [κατανοήσαι].v

ὅτι μέντοι τὸ μάθημα τοῦτο πάντων ἐστὶ χρεωδέστατον, λάβοι τις ἂν ἐξ ὧν ὁ Πλάτων ἐν τοῖς νόμοις φησί. τὸν γὰρ [τῶν]w Κρητῶν νομοθέτην

τοὺς νόμους τεθεῖσθαι ὥσπερ εἰς πόλεμον [ἀεὶ]x τῶν ἀνθρώπων παρεσκευασμένων. εἶναι γὰρ φύσει πάσαις ταῖς πόλεσι πρὸς ἀπάσας πόλεμον ἀκήρυκτον.

πῶς οὖν ἄλλο τις ἡγήσεται προϋργιαιότερον μάθημα ἢ τὸ βιβλίον χρεωδέστερον τούτου.

1. On the arrangement of tactics¹

The poet Homer seems to have been the first (at least that we read of) who had the skill of organizing an army, or at least recognized the skill in others. This is illustrated by Mnestheus, of whom Homer wrote:

No man yet born to the Earth was his equal in the marshalling of chariots and of fighting men.²

In regards to the tactics outlined by Homer, the works of Stratocles and of Frontinus, a man of consular dignity, are read in our time.³ Aeneas perfected military theory at length, publishing many volumes on warfare that were abridged by Cyneas the Thessalian.⁴ Likewise, Pyrrhus the Epirote set forth the art of war in writing, as did his son Alexander, as well as Clearchus, Pausanias, Evangelus, Polybius the Megalopolitan (a man of great learning and a companion of Scipio), Eupolemus, Iphicrates, and Poseidonius the Stoic philosopher.⁵ Many others, such as Bion, commented on tactics in their introductions, while others released large volumes on tactics. I have seen, and read, all of these works and yet I think it not of little importance to particularly mention, being not ignorant on such matters, that it has been the manner of these writers, for the most part, not to apply their style to the instruction of the ignorant, but only to those who are already acquainted with the themes that they discuss. As to the challenges that presented themselves to me, when I first set my mind to the study of this art, as I was unable to locate sufficient instructors nor to find clear meaning in the precepts that I read, I will endeavour,

as much as I can, to remove these obstacles out of the reader's way. Additionally, should words fail to express my meaning adequately, I will, for plainness' sake, use figures and pictures, thereby joining what the eye can perceive from the images to the text as an aid and assistance to the understanding of the passage. I will also retain the terms used by the ancient authors so that whoever follows this book as an introduction, thereafter being accustomed to the use of the same words and the usage of the things that they express, may go more acquainted, and not consider himself a stranger, when he comes to read these other works. By these ways prescribed by me, I have no doubt, these passages will be easily understood.

That this art is of most use above all others is illustrated by Plato in his work on *Laws* where he outlines what the Cretan Lawgiver said:

For (as he would say) 'peace', as the term is commonly used, is nothing more than a name. The truth is that all of the city-states, by their very nature, are perpetually engaged in an undeclared state of war against one another.⁶

If this is the case, then what discipline is to be more esteemed, or more necessary to a man's life, than the art of war?

β' Ὅτι τοῦ μαχομένου γένους
έννέα διαφοραί· ὀπλιτῶν,
πελταστῶν, ψιλῶν, ἱππέων
δορατοφόρων, ἱππέων ἀκοντιστῶν,
ἱππέων τοξοτῶν, ἱππέων
καταφράκτων, ἀρμάτων,
ἐλεφάντων

Λεκτέον δέ μοι πρῶτον περὶ τῶν εἰς τοὺς πολέμους τελειῶν
παρασκευῶν. διτταὶ [δ']^a εἰσὶ τούτων δυνάμεις, ἡ μὲν πεζικὴ, ἡ
δὲ ναυτική. καὶ πεζικὴ μὲν ἡ τῶν ἐπὶ γῆς μαχομένων, ναυτικὴ
δὲ ἡ τῶν κατὰ θάλασσαν [ἡ]^b ποταμοὺς ἐν ναυσὶ
παρατασσομένων. καὶ περὶ μὲν τῶν ἐν [ταῖς]^c ναυμαχίαις
συντάξεων ὕστερον ἐροῦμεν, τὰ δὲ πρὸς τὴν πεζικὴν στρατείαν
συντείνοντα νῦν ἀφηγησόμεθα.

τῶν ἐπὶ τοὺς πολέμους τοίνυν ἀθροιζομένων τὸ πλῆθος τὸ
μὲν ἐστὶ μάχιμον. τὸ δὲ κατὰ τὰς τούτου χρείας συνερχόμενον
ἄμαχον. καὶ μάχιμον μὲν τὸ παρατασσόμενον ἐν τοῖς ἀγῶσι.
καὶ δι' ὅπλων ἀμυνόμενον τοὺς πολεμίους, ἄμαχον δὲ τὸ
λοιπόν, οἷον ἱατρῶν, ἀγοραίων, [ότύλων]^d καὶ ἄλλων, ὅσοι
διὰ τὰς ὑπηρεσίας [ἐπακολουθοῦσιν].^e τοῦ δὲ μαχίμου τὸ μὲν
ἐστὶ πεζικόν, τὸ δὲ ἐπ' ὀχημάτων. τὸ μὲν ἰδίως πεζὸν τὸ ἐπὶ γῆς
βεβηκός, τοῦ δὲ ἐπὶ τῶν ὀχημάτων τὸ μὲν ἐφ' ἵππων φέρεται
τὸ δὲ ἐπ' ἐλεφάντων. τοῦ δὲ ἐφ' ἵππων τὸ μὲν ἐφ' ἀρμάτων, τὸ

δὲ ἐπ' αὐτῶν ἱδρυταὶ τῶν ἵππων. [καὶ]f τῷ μὲν γένει τοσαῦται γίνονται διαφοραί.

τοῖς δὲ εἶδεσιν [ἦτε]g πεζικὴ διακόσμησις πολυμερὴς ἐστὶ καὶ ἡ ἵππικῇ. ἡ γὰρ τῶν ἐλεφάντων μονοειδὴς ἐστὶ καὶ ἡ τῶν ἄρμάτων. ἡ μὲν οὖν πεζικὴ σύνταξις τριχῇ διήρηται. ἡ μὲν γὰρ ἐστὶν ὀπλιτῶν, ἡ δὲ πελταστῶν, τρίτη δὲ ψιλῶν. καὶ [τὸ]h μὲν τῶν ὀπλιτῶν βαρυτάτῃ παρὰ πάντας τοὺς πεζοὺς κέχρηται καθοπλίσαι κατὰ τὸν Μακεδονικὸν τρόπον, ἀσπίσι περιφερέσι καὶ δόρασι περιμηκεστέροις. τὸ δὲ τῶν ψιλῶν πάντων κουφοτάτῃ κέχρηται παρασκευῇ, μήτε θώρακας ἔχει, μήτε προκνημίδας, μήτε θυρεοὺς ἢ ἀσπίδας βαρείας, ἀλλὰ τοῖς ἐκηβόλοις χρώμενον τοξεύμασιν [ἢ]i ἀκοντίοις, ἢ λίθοις ἐκ σφενδόνης ἢ ἐκ χειρός. εἰς τοῦτο δὲ τὸ γένος καὶ τὸ [τοῦ ἀργίλου]j ὄπλον κατατάττεται [καὶ στολὰς ἀντὶ θώρακος. τὸ δὲ τῶν πελταστῶν]k καὶ αὐτὸ μὲν ἔχει τὸν ὀπλισμὸν ἐμφορῇ τῇ Μακεδονικῇ [παρασκευῇ],l κουφότερον δὲ ἐκείνης τὸν καθοπλισμόν. τούτοις γὰρ πέλτης μικρόν ἐστι καὶ ἐλαφρόν ὄπλον καὶ τὰ δόρατα πολὺ τῶν [σαρισσῶν]m [μεγέθει]n λειπόμενα. δοκεῖ δ' [τούτων ἢ]o ὀπλισις μέσση ἔχειν τάξιν τῶν ψιλῶν καὶ τῶν ἰδίως λεγομένων ὀπλιτῶν, βαρυτέρα μὲν οὖσα τῶν ψιλῶν, κουφοτέρα δὲ τῶν ὀπλιτῶν. διὸ καὶ οἱ [πλείους καὶ]p τούτους μετὰ τῶν ψιλῶν [συντάττουσιν].q

τῆς δ' ἵππικῆς δυνάμεως, ἣν ἐχωρίσαμεν ἀπὸ [τῆς]r τῶν ἄρμάτων, ἐν ταῖς [ἵλαις]s κατατασσομένης ἡ μὲν ἐστὶ κατάφρακτος, ἡ [δέ]t οὐ κατάφρακτος. κατάφρακτος μὲν ἡ τοὺς [τε]u ἵππους καὶ τοὺς ἄνδρας θώραξι πάντοθεν σκέπουσα. τῶν δὲ μὴ καταφράκτων οἱ μὲν εἰσι δορατοφόροι, οἱ δὲ ἀκροβολισταί. δορατοφόροι μὲν οὖν εἰσιν οἱ ἀπὸ τῶν ἵππων τοῖς πολεμίοις συμπλεκόμενοι καὶ πλησίον δόρασι μαχόμενοι. τούτων δὲ οἱ μὲν θυρεοὺς ἔχουσι καὶ καλοῦνται θυρεοφόροι, οἱ δὲ χωρὶς θυρεῶν [αὐτῶν]v μόνον δόρασι μάχονται, οἱ καὶ ἰδίως δορατοφόροι καλοῦνται, ὑπ' ἐνίων δὲ [ξυστοφόροι].w ἀκροβολισταὶ δὲ τῶν ἱππέων λέγονται οἱ πόρρωθεν βάλλοντες. τούτων δὲ οἱ μὲν δορατίοις χρῶνται, οἱ δὲ τόξοις. καὶ δορατίοις

μὲν οἱ καλούμενοι Ταραντῖνοι. τῶν δὲ Ταραντίνων δύο εἰσὶ διαφοραί. οἱ μὲν γὰρ [τοῖς]x δορατίοις πόρρωθεν βάλλοντες [ὑποκοντισταὶ]y καλοῦνται [καὶ]z ἰδίως [δὲ]aa Ταραντῖνοι λεγόμενοι. τινὲς δὲ τῶν Ταραντίνων ἐλαφροῖς δορατίοις χρῶνται, [ἄπαξ τὲ]ab ἢ δις προεξακοντίσαντες τὸ λοιπὸν συμπλέκονται τοῖς πολεμίοις ἐγγύθεν ἀπομαχόμενοι παραπλησίως τοῖς [εἰρημένοις]ac δορατοφόροις. οὗτοι δὲ καλοῦνται ἐλαφροί. [ὥς τε τῶν Ταραντίνων τοῦς μὲν ἰδίως καλεῖσθαι Ταραντίνους πόρρωθεν [ἀκοντίζονται].ad τοῦς δὲ ἐλαφροὺς λέγεσθαι, τοῦς πλησίον μαχομένους].ae οἱ δὲ τῶν ἱππέων τόξοις χρώμενοι ἱπποτοξόται λέγονται, ὑπ' ἐνίων δὲ Σκύθαι.

τοσαῦται μὲν οὖν εἰσι τῶν ἐν τοῖς στρατοπέδοις διαφοραὶ τοῦ μαχίμου γένους, τὸν ἀριθμὸν ἐννέα – ὀπλιτῶν, πελταστῶν, ψιλῶν. ἱππέων – δορατοφόρων ἱππέων, ἀκοντιστῶν ἱππέων, τοξοτῶν ἱππέων, καταφράκτων, ἀρμάτων, ἐλεφάντων.

2. On the nine distinct parts of the army: hoplites, peltasts, light troops, lancers, mounted javelineers, mounted archers, heavy cavalry, chariots and elephants¹

I will begin with the preparations that are absolutely necessary in war, the forces for which fall under two categories: land-based forces and naval forces. Land-based forces are those that fight on the land. Naval forces are those that fight on board ships, either on the sea or on rivers. However, the organization of naval forces I will reserve for another place, and concentrate, for the moment, on those things pertaining to land-based forces.²

The levies that make up land-based forces are those who either fight in or command armies, or those that do not fight but remain in the camp for some other necessary purpose. Those that fight are those that stand in an ordered battle-line and who either assault or repulse the enemy with their weapons. The others act as physicians, merchants, servants and others who follow the army and minister to it. Fighting men can be either infantry or mounted troops. The infantry fight on foot while some of the mounted troops use horses [cavalry], others use elephants, and still others use horses to draw chariots. These are the general differences between the different kinds of land-based forces.

Both the cavalry and infantry can come in a variety of types;

only the elephants and the chariots never alter in their form. Infantry can come in one of three forms: the hoplites [ὀπλίται], the peltasts [πελτασται] and, thirdly, the psiloi [ψιλοί] or ‘naked’ troops [i.e. the light infantry and skirmishers]. The hoplites carry the most equipment of all of the different types of foot soldier, using, according to the Macedonian manner, round shields and long spears [δόρατα].³ The psiloi, conversely, carry little or no equipment. They have neither body armour nor greaves, nor do they use long or round shields of any weight, but fight from a distance by casting missiles such as arrows, javelins and stones (either by hand or by using a sling). The peltasts wear the style of armour known as ‘argilos’, which is similar to Macedonian armour only lighter.⁴ This type of soldier carries a small shield, and his spear is much shorter than the Macedonian pike.⁵ As such, his armour is in between that of the ‘heavy infantry’ and that of the ‘light infantry’ (being lighter than that of the hoplite but heavier than that of the psiloi) and this has often caused the peltasts to be confused with the ‘light infantry’.⁶

The forces of cavalry, which were previously distinguished from chariot-mounted forces, can either be considered *kataphracts* [κατάφρακτοι] or not. *Kataphracts* cover both themselves and their horses with armour [i.e. they are heavy cavalry]. Those that are not *kataphracts* can either be lancers [*doratophoroi*, δορατοφόροι] or *acrobolists* [ἀκροβολισται]. Lancers are those that join with the enemy and fight with a lance from horseback. Of these, some carry long shields and are sometimes referred to as ‘targeteers’ [*thyreophoroi*, θυρεοφόροι]. Others carry only the lance and no shield and are properly called ‘lancers’ or *xystophoroi* [ξυστοφόροι, ‘pikemen’]. *acrobolists* fight from horseback with missile weapons. Some use javelins, others use bows. The type of cavalry known as ‘Tarantine’ particularly use javelins.⁷ of the ‘Tarantines’, there are two kinds: one that throws small javelins from far off, and are therefore referred to as ‘darters on horseback’ [*hippakontistai*, ἵππακοντισται], while others use light javelins

and then, after they have spent one or two, close with the enemy and fight like lancers, of which I have already spoken, and fight hand-to-hand. These are commonly called 'light cavalry' [*elaphroi*, ἐλαφροί]. However, proper Tarantine cavalry are those who fight from a distance. Horsemen who use bows are known as 'mounted archers' [*hippotoxotai*, ἵπποτοξόται] and are sometimes called 'Scythian cavalry'.

These then are the differences in the nine types of troops that are found in the camp: of the infantry, there are the hoplites, the peltasts, and the psiloi (or 'naked'); of mounted troops, there are the lancers, the darters, the mounted archers, and the heavy cavalry. Lastly, there are the chariot corps and the elephants.

γ' Πῶς οἱ ἀρχαῖοι ὠρίσαντο τὴν τακτικὴν τέχνην

Ἐκάστης δὲ τῶν [εἰρημένων]^a φάλαγγος συστήματα καὶ ἡγεμονίας καὶ τάξεις καὶ ἀριθμὸν ἐπιτήδειον περιεχούσης καὶ ὀνόματα χάριν τῶν παραγγελλομένων εἰς τε τὴν καθημερινὴν γυμνασίαν καὶ συνάσκησιν. καὶ ἐπὶ τῆς ἀληθείας ἐν αὐτοῖς τοῖς ἀγῶσιν, ἀναγκαῖον περὶ [ἐκάστων]^b εἰπεῖν. τὸ μὲν οὖν ἐν τῇ τακτικῇ [πρωτοστατοῦτος]^c ἐστὶ παραλαβόντα πλῆθος ἀνδρῶν ἄτακτον τοὺς ἐπιτηδείους ἐκλεξάμενον καθ' ἣν ἕκαστον προσήκει χώραν συντάξαι. [τουτέστι]^d καταλοχίσαι καὶ συλλοχίσαι, ἀριθμὸν τε τοῦ παντὸς πλήθους ὀρίσαι [συμμέτρον]^e καὶ εὐχρήστως ἔχοντα πρὸς [τὸν]^f κατὰ τὸν πόλεμον. τὸ γὰρ συντετάχθαι τὸ στράτευμα ἔν τε πορείαις καὶ στρατοπεδείαις [ἐν αὐταῖς τε ταῖς]^g παρατάξεσιν ὠφελιμώτατόν [ἐστὶ].^h εὐρίσκομεν γὰρ πολλάκις μεγάλας δυνάμεις συντετριμμένας διὰ τὴν ἀταξίαν ὑπ' ὀλίγων συντεταγμένων. ὅρον δὲ αὐτῆς ἔθεντο Αἰνεΐας μὲν ἐπιστήμην εἶναι πολεμικῶν κινήσεων, Πολύβιος δέ, [ἂν τις πλῆθος τακτικόν]ⁱ παραλαβὼν τοῦτο συγκρίνῃ καὶ καταλοχίσας συλλοχίσῃ παιδεύσῃ τε χρυσίμως τὰ πρὸς τὸν πόλεμον.

3. How the ancients defined the tactical arts¹

Since each phalanx contains within itself distinct bodies, certain individual officers of command, subordinate classes, and a certain number of men, distinguished by proper terms, and suited for daily exercise, training and battle, it seems particularly relevant to treat each of these things separately. It is the first duty of a commander to select the fittest men out of the general levy and to appoint each of these men to their proper place (that is, to arrange them into files and to form these into larger bodies) and to organize a total levy that will be suitable to conduct the war on the desired scale. The skill to organize an army, to march and encamp with skill, and to fight effectively, is a matter of no small consequence, for it has often been the case that a mighty but disorderly army has been defeated by a handful of men who were well disciplined and trained. Aeneas calls this a 'science of warlike motions'. Polybius calls it 'a skill whereby a man can take a given number of men, arrange them into files and bodies that mutually support each other, and instruct them in all of the matters pertaining to war'.

δ' Τί ἐστὶ λόχος καὶ τί καταλοχισμός

Τὸ μὲν οὖν καταλοχίσαι ἐστὶ τὸ ποιῆσαι λόχους. ὁ δὲ λόχος ἐστὶν ἀριθμὸς ἀνδρῶν ἀπὸ τινος ἡγουμένου καὶ τῶν μετ' [αὐτοῦς]^a ὀπισθεν ἐπομένων μέχρι τοῦ τελευταίου. τὸν δὲ ἀριθμὸν τοῦ λόχου οἱ μὲν ὀκτὼ ἀνδρῶν ἐποίησαν, οἱ δὲ δώδεκα, οἱ δὲ δεκαῆξ. ἔστω δὲ νῦν ἐκκαίδεκα ἀνδρῶν ὁ λόχος. συμμέτρως γὰρ ἔχει πρὸς τε τὸ μῆκος τῆς φάλαγγος. καί, ἐάν τε διὰ τινος χρείας διπλασιάζεται τὸ βάθος, ὥστε ἐπὶ τριάκοντα δύο ἄνδρας γενέσθαι. ἢ συναρῆται καὶ ἐπ' ὀκτὼ ἄνδρας βαθύνηται, οὐδὲν ἐμπόδιον γενήσεται τοῖς ὀπισθεν τασσομένοις ψιλοῖς. [εἴ τε γὰρ ἀκοντίζουσιν]^b ἢ σφενδόναις χρῶνται ἢ τοξεύμασιν, [εὐκόπως]^c ὑπερθήσουσι ταῖς βολαῖς τὸ τῆς φάλαγγος βάθος.

4. What is a file and the distribution within the file¹

To organize men into ‘files’ [λόχοι] is to arrange men one behind the other.² A file [λόχος] is a number of men, beginning with a ‘commander’, and continuing with a group of ‘followers’ in order to the last man. The numbers that make up a file vary, for some make it with eight men, some with twelve, and others with sixteen.³ for this exercise, we will base the file upon sixteen men as that number is proportionate to the different configurations of the phalanx, and also because it allows the depth of the phalanx to be easily increased to thirty-two men, or lessened and so decrease the depth of the phalanx to eight men. None of these configurations will hinder the use of light troops positioned behind the line as, regardless of whether they are using javelins, or slings, or arrows, they should be able to easily cast their missile weapons over a phalanx of any size.⁴

ε' Πόσων ἀνδρῶν οἱ ἀρχαῖοι τοὺς λόχους ἔταξαν, καὶ πόϊος αὐτῶν ἀριθμὸς πρὸς παράταξιν ἐπιτήδειος

Ὁ μὲν οὖν ἄριστος ἐκάστου λόχου πρῶτος καὶ ἡγούμενός [ἐστίν],^a ὃς καὶ λοχαγὸς ἐπονομάζεται καὶ ἡγεμὼν καὶ πρωτοστάτης. ὁ δὲ τελευταῖος τοῦ λόχου οὐραγὸς καλεῖται. ὁ λόχος δὲ ὅλος καλεῖται στίχος, ὀνομάζεται δὲ καὶ δεκανία. ὑπὸ δέ τινων ἐνωμοτία. τινὲς δὲ τὴν ἐνωμοτίαν τέταρτον τοῦ λόχου μέρος ἀπεφώνησαν καὶ τὸν ἡγούμενον τῆς [ἐνωμοτίας]^b ἐνωμοτάρχην, τὰς δὲ δύο [ἐνωμοτίας διμοιρίας]^c ἐκάλεσαν καὶ τὸν ἡγούμενον αὐτῆς διμοιρίτην, ὥστε τὸ ἡμιλόχιον καὶ διμοιρίαν καλεῖσθαι καὶ τὸν ἡμιλοχίτην διμοιρίτην. [οὗτος δὲ [ἐστι],^d ὁ τοῦ λόχου ἐπιστάτης].^e καὶ ὁ μὲν τοῦ λοχαγοῦ ὀπίσω τεταγμένος καλεῖται ἐπιστάτης, ὁ [δ']^f [τούτου]^g κατόπιν ὁμοίως πρωτοστάτης, ὁ δ' [τούτου κατόπιν]^h ἐπιστάτης, ὥστε ὅλον τὸν στίχον ἐκ πρωτοστατῶν καὶ ἐπιστατῶν συντετάχθαι παραλλὰξ τεταγμένων. δεῖ δὲ τὸν λοχαγὸν [καὶ τὸν οὐραγὸν]ⁱ διαφέρειν τῶν ἄλλων. μετὰ δὲ τούτους ἤδη τοὺς τῶν ἡμιλοχιῶν ὥσπερ οὐραγούς, ὀρίζονται δὲ τὸν λόχον [οὕτω].^j στίχον ἐξ ἐπιστατῶν κατ' ἀρετὴν ὑπὸ λοχαγῷ τεταγμένων.

5. How men of ancient times were arranged in the files and the numbers that make up the formation¹

The best man of every file [*lochos*, λόχος] is positioned in the front and is known as the ‘file leader’ [*lochargos*, λοχαγός], the ‘commander’ [*hegemon*, ἡγεμών] or the ‘fore-stander’ [*protostates*, πρωτοστάτης]. The man at the rear of the file is known as the ‘rear commander’ [*ouragos*, οὐραγός] or the ‘bringer up’. The file as a whole is called a *dekad* [δεκάδος] or an *enomotia* [ἐνωμοτία].² There are those that call only one fourth of the file an *enomotia*, and the commander of such an *enomotarch* [ἐνωμοτάρχης], while two *enomotiae* are called a *dimoiria* [διμοιρία] under the command of a *dimorites* [διμοιρίτης]; in other words, a half-file is sometimes called a *dimoiria* led by a *dimorites* and this unit covers the rear of the line.³ The man that stands behind the file leader is called a ‘follower’ [*epistates*, ἐπιστάτης], and after him comes a ‘leader’, and then there are more ‘followers’, so that the whole file consists of both leaders and followers placed one after the other.⁴ The file-leader should excel all of the other men in the file in bravery and then, after him, should come the *dimorites* and the *ouragos*. A file is therefore defined as a column of men, who are arranged according to their worth, after the file leader. (See [Plate 1.](#))

ς' Τί ἐστι συλλοχισμός

Συλλοχισμός δέ ἐστιν, ὅταν τῷ πρώτῳ λόχῳ ἕτερος παρατεθῇ, τῷ μὲν [οὖν]^a τοῦ πρώτου στίχου λοχαγῷ ὁ λοχαγὸς τοῦ δευτέρου στίχου, τῷ δὲ ὀπισθεν ἐπιστάτῃ τοῦ πρώτου λοχαγοῦ ὁ τοῦ δευτέρου [λοχοῦ]^b ἐπιστάτης, καὶ κατὰ τὸ ἐξῆς. παραστάτης δὲ καλεῖται πᾶς ὁ ζυγῶν, οἷον τῷ τοῦ πρώτου λόχου λοχαγῷ ὁ τοῦ δευτέρου λόχου λοχαγός, καὶ ὁμοίως τῷ τοῦ πρώτου [λοχοῦ]^c ἐπιστάτῃ. [καὶ]^d τοῦ δευτέρου [λοχοῦ]^e ἐπιστάτης, καὶ κατὰ τὸ ἐξῆς. ὅταν οὖν [κατὰ]^f τὸν δεύτερον λόχον τρίτος ταγῇ, [ἢ]^g τέταρτος καὶ οὕτως κατὰ τὸ ἐξῆς οἱ λοιποί, τὸ [τοιούτο]^h συλλοχισμός καλεῖται.

6. Joining files¹

The joining of files [*syllochismos*, συλλοχισμός] is achieved when a second file is placed beside the first with the ‘file leader’ [*lochargos*] of the second file standing beside the *lochargos* of the first, the ‘follower’ [*epistates*] of the second file beside the *epistates* of the first, and so on. Each of those that stand to the left or right of anyone in a rank is called their ‘supporter’ [*parastates*, παραστάτης], as the *lochargos* of the second file is regarded as the supporter of the *lochargos* of the first file, and the *epistates* of the second file is called the supporter of the *epistates* of the first file, and so on. When a third or fourth file is placed beside the other files, this is called the ‘joining of the files’.² (See [Plate 2](#).)

ζ' Τί ἐστι βάθος τῆς φάλαγγος. Τί
ἐστι ζυγεῖν αἰ τί στοιχεῖν. Ὅτι
κατὰ τὸ πλεῖστον μετὰ τὴν τῶν
ὀπλιτῶν φάλαγγα ὀπίσω τάσσεται
τὸ τῶν ψιλῶν καὶ ἔτι τούτων
ὀπίσω τὸ τῶν ἱππέων

Τὸ δὲ ὅλον σύστημα τοῦ πλήθους τῶν λόχων φάλαγξ
καλεῖται. ἥς μῆκος μὲν τὸ πρῶτον τῶν λοχαγῶν τάγμα – τοῦτο
δὲ [καί]a μετώπον καὶ πρόσωπον καὶ παράταξις καὶ ζυγὸν καὶ
στόμα καὶ ἡγεμόνες καὶ πρωτοστάται καὶ πρωτολοχία
καλεῖται. τὸ δὲ κατόπιν τοῦ μετώπου πᾶν μέρος τῆς φάλαγγος
μέχρι τῶν οὐραγῶν βάθος καλεῖται. λέγεται [δὲ]b τὸ μὲν κατὰ
μῆκος ἐπ' εὐθείας εἶναι τοῖς πρωτοστάταις ἢ τοῖς ἐπιστάταις
ζυγεῖν. τὸ δὲ κατὰ βάθος ἐπ' εὐθείας εἶναι τοῖς οὐραγοῖς καὶ
λοχαγοῖς στοιχεῖν. διαιρεῖται δὲ ἡ φάλαγξ οὕτως εἰς μὲν
ὀλοσχερῇ μέρη [διὸ ἀπὸ τῆς]c μετώπου διχοτομίας δι' ὅλου τοῦ
βάθους, ὧν τὸ μὲν ἥμισυ δεξιὸν καλεῖται κέρας καὶ κεφαλὴ, τὸ
δὲ [λοιπὸν]d εὐώνυμον λέγεται κέρας καὶ οὐρά. αὕτη δὲ ἡ
διχοτομία τοῦ μήκους ὁμφαλὸς προσαγορεύεται καὶ στόμα καὶ
ἄραρος.

Μετὰ δὲ τὴν τῶν ὀπλιτῶν φάλαγγα κατόπιν τάσσεται τὸ
τῶν ψιλῶν τάγμα. τούτου δὲ ἔτι κατόπιν τὸ τῶν ἱππέων. ὅταν
μέντοι αἱ χρεῖαι ἀπαιτῶσιν, ἐν ἑτέροις τόποις τάσσονται οἱ τε

ψιλοὶ καὶ οἱ ἱππεῖς, ὡς προελθόντες ἐροῦμεν. πόσον δὲ δεῖ τὸν ἀριθμὸν τῶν τε ὀπλιτῶν εἶναι [καὶ πόσον τῶν ψιλῶν]^e καὶ πόσον τῶν ἱππέων, δηλώσομεν, καὶ πῶς δεῖ ἕκαστον [δεῖ]^f τετάχθαι, καὶ πρὸς τὰς [επειγούσας]^g χρείας πῶς δεῖ μετὰ πολλοῦ τάχους τὰς τάξεις μετασχηματίζειν, δηλωθήσεται, καὶ τίς ἡ διδαχὴ τῆς περὶ ἕκαστον τάγμα κινήσεως γενήσεται, παραστήσομεν.

7. The depth of the phalanx, its width and the files. The division of the men of the phalanx and the position of the light troops and cavalry¹

A complete body of joined files is called a 'phalanx' [φάλαγξ]. The width [mekos, μῆκος] of the phalanx is formed by the row of 'file-leaders' [lochargoī] which is variously called the 'front' [metopon, μέτωπον], the 'face' [prosopon, πρόσωπον], the 'edge' [parataxis, παράταξις], the 'main rank' [zugon, ζυγόν], the 'mouth' [stoma, στόμα], the 'commanders' [hegemones, ἡγεμόνες], the 'fore-standers' [protostatai, πρωτοστάται], and the 'heads' of the files [protolochia, πρωτολοχία]. The rest of the phalanx, from front to rear, makes up its depth [bathos, βάθος]. The lengthwise rows of leaders and followers are known as ranks. Those rows which run front to back are termed files. A phalanx can be separated into two divisions by a supposed line running through its middle from front to rear [dichotomias, διχοτομίας]. One is called the 'right wing' or the 'head' [kephalē, κεφαλή] while the other is called the 'left wing' or the 'tail' [oura, οὐρά]. The line that bisects these two divisions is sometimes called the 'navel' [omphalos, ὀμφαλος], the 'mouth' [stoma, στόμα] or the 'dissection' [araros, ἀραρός] of the phalanx.

Behind the body of armed troops that forms the *phalanx* are

placed the light infantry, with the cavalry formed up behind them, although the light troops and cavalry sometimes occupy different positions, as will be seen in due course.² I shall now proceed to outline what should be the proper proportions of armed infantry, light troops and cavalry and how to draw them up in proper order. I shall likewise outline by what means, when necessity calls for it, the order of the battle-line can be changed with speed, to which I shall annex the theory of military movements that are appropriate for each of the different types of troop.³

ἡ' Ὅτι οἱ πλείους τὸν ἀριθμὸν τῆς
τῶν ὀπλιτῶν φάλαγγος μυρίων
ἑξακισχιλίων τριακοσίων
ὀγδοήκοντα τεσσάρων ἐποίησαν
ἀπὸ μονάδος κατὰ διπλασιασμὸν
ἐκβαίνοντα καὶ σύμμετρον ὄντα.
Ὅτι ἥμισυν τούτου τὸν τῶν ψιλῶν,
ἔτι δὲ τούτου ἥμισυν τὸν τῶν
ἱππέων καὶ διὰ τί

Ὅριζεν μὲν οὖν τὸν ἀριθμὸν τοῦ στρατεύματος ἀπίθανον. πρὸς γὰρ ἦν ἕκαστος ἔχει παρασκευὴν [τῶν τακτικῶν]^a δεῖ ὑπογραμμὸν τιθέναι τοῦ πλήθους. ἤδη μέντοι δεῖ [γινώσκειν],^b ὅτι τοιούτους ἀριθμοὺς ἐκλέγεσθαι δεῖ, οἱ τινες ἐπιτηδείως ἔξουσι πρὸς τοὺς μετασχηματισμοὺς τῶν ταγμάτων, τοῦτ' [ἔστι],^c ἐὰν τὸ μῆκος τῆς φάλαγγος διπλασιάσαι βουληθῶμεν, [τὸ δὲ βάθος συνελεῖν],^d ἢ πολυπλασιάσαι [τὸ βάθος, τὸ δὲ]^e μῆκος συνελεῖν. διὰ [δὴ]^f ταύτην τὴν αἰτίαν ἀριθμοὺς ἐπενόησαν μέχρι μονάδος εἰς [ἡμίση]^g διαιρεῖσθαι δυναμένους. ὅθεν οἱ πλείους τῶν [τακτικῶν συγγραψάντων]^h μυρίων ἑξακισχιλίων [καὶ]ⁱ τριακοσίων [καὶ]^j ὀγδοήκοντα τεσσάρων τὴν τῶν ὀπλιτῶν φάλαγγα ἐποίησαν, ταύτης δὲ ἡμίσειαν τὴν

τῶν ψιλῶν, ἔτι δὲ ταύτης ἡμίσειαν τὴν τῶν ἱππέων.

ὁ γὰρ τῶν [μυρίων]^k ἑξακισχιλίων [καὶ]^l τριακοσίων [καὶ]^m ὀγδοήκοντα τεσσάρων ἀριθμὸς μέχρι μονάδος δίχα διαφεῖται. τύπου οὖν καὶ [ὑπογραφῆς]ⁿ ἕνεκα ὁ τοιοῦτος ἀριθμὸς ἐγκρίνεται, ὥστε, ἐπεὶ τὸν λόχον δεκαἑξ ἀνδρῶν ὑπεθέμεθα, δεήσει χιλίους καὶ εἴκοσι τέσσαρας εἶναι λόχους.

8. How the phalanx is made up of various numbers increasing from one to 16,384 men; how there is half this number of light troops and half this number again of cavalry¹

To determine the number of troops required for an army is neither an easy nor definite task, for the numbers of the army must be determined by the size of the levy, and that is all too dependant upon circumstances. However, it can be generalized that the army must contain such numbers as to be adequate for the different manouevres of war. That is, should it be deemed nescessary to double the phalanx, to increase it in any proportion, or to reduce its size.² As such, it will always be advisable to form the phalanx from such a number of men that it can be easily divided and subdivided down to a single man. On this basis, most tacticians base the phalanx on 16,384 infantry, half that number of light troops and half as much again for the cavalry.³

The number 16,384 will allow for an even division of the phalanx by repeatedly halving larger units.⁴ for these reasons, therefore, let it be assumed that this is the proper number. Consequently, as each file contains sixteen men, there will be 1,024 files in the phalanx.

Θ' Ἡ φάλαγξ

Οὗτοι δὲ μεμερισμένοι εἰσὶν εἰς τάγματα, ὧν ἐκάστῳ καὶ [ὄνοματα]^a κεῖται. οἱ μὲν γὰρ δύο λόχοι διλοχία καλοῦνται, ἀνδρῶν τριάκοντα δύο, καὶ ὁ τούτου τοῦ τάγματος ἡγούμενος διλοχίτης λέγεται. οἱ δὲ τέσσαρες λόχοι τετραρχία, καὶ ὁ τούτου τοῦ τάγματος ἡγούμενος τετράρχης, ἀνδρῶν ἐξήκοντα τεσσάρων ἑξαρχος. αἱ δὲ δύο τετραρχίαι καλοῦνται τάξεις, ἀνδρῶν ἑκατὸν εἴκοσι ὀκτώ, λόχων ὀκτώ, καὶ ὁ τούτων ἀφηγούμενος καλεῖται ταξίαρχος, [ὑπὸ δέ τινων ἑκατοντάρχης].^b αἱ δὲ δύο τάξεις καλοῦνται [σύνταγμα],^c λόχων δεκαῆξ, ἀνδρῶν δὲ διακοσίων πεντήκοντα ἕξ, καὶ ὁ [τούτου]^d ἀφηγούμενος συνταγματάρχης. ὑπ' ἐνίων δὲ τὸ σύνταγμα τῶν διᾱκόσιοι πεντήκοντα ἕξ ἀνδρῶν, ξεναγία καλεῖται. καὶ ὁ τούτου τοῦ τάγματος ἀφηγούμενος ξεναγός. [καθ' ἕκαστον]^e τῶν διᾱκόσιοι πεντήκοντα ἕξ ἀνδρῶν σύνταγμα ἕκτακτοι ἄνδρες ὑπάρχουσι πέντε. σημειοφόρος, οὐραγός, σαλπικτής, ὑπηρέτης, στρατοκῆρυξ. δοκεῖ [δὲ]^f τὸ σύνταγμα τετράγωνον σχῆμα [ἔχειν],^g δεκαῆξ [ἀνδρῶν]^h μήκους ἐπὶ δεκαῆξ βάθους.

τὰ δὲ δύο συντάγματά ἐστιν ἀνδρῶν πεντακόσιοι καὶ δώδεκα, λόχων τριάκοντα δύο, καὶ ὁ τούτων ἀφηγούμενος πεντακοσιάρχης. αἱ δὲ δύο πεντακοσιαρχίαι καλοῦνται χιλιαρχία, ἀνδρῶν χιλίων [καὶ]ⁱ εἴκοσι τέσσαρες, λόχων ἐξήκοντα τέσσαρες. [καὶ ὁ τούτων ἀφηγούμενος χιλίαρχης].^j αἱ δὲ δύο χιλιαρχίαι μεραρχία καλεῖται, ἀνδρῶν δισχίλιοι καὶ τέσσαράκοντα ὀκτώ, καὶ ὁ [τοῦ]^k μέρους τούτου ἡγούμενος καλεῖται μεράρχης, λόχων ἑκατὸν καὶ εἴκοσι ὀκτώ. τοῦτο δὲ

τὸ μέρος ὑπ' ἐνίων τέλος καλεῖται, καὶ [ὁ]l ἀφηγούμενος αὐτοῦ [τελειάρχης].m αἱ δὲ δύο [τελαρχίαι]n φαλαγγαρχία [καλεῖται],o ἀνδρῶν τετραχίλιοι καὶ ἐνενήκοντα ἕξ, λόχων διᾱκόσιοι καὶ πεντήκοντα ἕξ, καὶ ὁ τούτων ἀφηγούμενος φαλαγγάρχης. ὑπ' ἐνίων δὲ καλεῖται τοῦτο τὸ τάγμα στρατηγία καὶ ὁ [τούτου]p ἀφηγούμενος στρατηγός. αἱ δὲ δύο φαλαγγαρχίαι διφαλαγγαρχία, ἀνδρῶν ὀκταχίλιοι καὶ ἑκατον καὶ ἐνενήκοντα δύο, λόχων πεντακόσιοι καὶ δώδεκα. ὑπ' ἐνίων δὲ τὸ τάγμα τοῦτο καλεῖται μέρος, ἔστι δὲ καὶ κέρασ. αἱ δὲ δύο διφαλαγγαρχίαι τετραφαλαγγαρχία, λόχων χιλίοι καὶ εἴκοσι τέσσαρες, ἀνδρῶν μυρίων ἐκκαίδεκαχίλιοι καὶ τριᾱκόσιοι καὶ ὀγδοήκοντα τέσσαρες.

ὥστε γίνεσθαι ἐν ὅλῃ τῇ φάλαγγι κέρατα μὲν δύο, φαλαγγαρχίας [δὲ]q τέσσαρες, μεραρχίας ὀκτώ, χιλίαρχους ἐκκαίδεκα, πεντακοσιαρχους τριάκοντα δύο, συνταγματάρχους ἐξήκοντα τέσσαρες, [ταξιαρχίας]r δὲ ἑκατον καὶ εἴκοσι ὀκτώ, τεταρχίας δὲ διᾱκόσιοι καὶ πεντήκοντα ἕξ, διλοχίτας δὲ πεντακόσιοι καὶ δώδεκα, λόχους δὲ χιλίοι καὶ εἴκοσι τέσσαρες.

9. The phalanx¹

The files are drawn up in their proper order and each unit of the phalanx has its proper name. Two files form a *dilochia* [διλοχία] of thirty-two men, commanded by a *dilochites* [διλοχίτης]. Four files [i.e. two *dilochiae*] make a *tetrarchia* [τετραρχία] of sixty-four men, commanded by a *tetrarch* [τετράρχης]. Two *tetrarchiae* make a *taxis* [τάξις] of 128 men in eight files, commanded by a *taxiarch* [ταξίαρχος]. Two *taxes* form a *syntagma* [σύνταγμα], consisting of sixteen files of 256 men, commanded by a *syntagmatarch* [συνταγματάρχης]. Some call a *syntagma* a *xenagia* [ξεναγία] and its commander a *xenagos* [ξεναγός]. In each *syntagma* of 256 men, there are five supernumeraries [*ektaktoi*, ἑκτακτοί]: a standard-bearer [*semeiphoros*, σημειφόρος], a rear commander [*ouragos*, οὐραγός], a trumpeter [*salpigktēs*, σαλπικτής], an aide-de-camp [*hyperetēs*, ὑπηρέτης], and a herald [*stratokērux*, στρατοκῆρυξ]. It is obvious that each *syntagma* must be square in shape, since it has a frontage of sixteen men and a depth of sixteen men. (See [Plate 3](#).)

Two *syntagmae*, consisting of 512 men in thirty-two files, are commanded by a *pentacosiarch* [πεντακοσιάρχης].² Two *pentacosiarchies* are called a *chiliarchia* [χιλίαρχία], being 1,024 men in sixty-four files, which is commanded by a *chiliarch* [χιλιάρχης]. Two *chiliarchiae* form a *merarchia* [μεραρχία] of 2,048 men in 128 files, commanded by a *merarch* [μεράρχης]. Some call this unit a *telos* [τέλος] and its leader a *teleiarch* [τελειάρχης]. Two [*telarchiae*]³ make a *phalangarchia* [φαλαγγαρχία] of 4,096 men in 256 files, commanded by a

phalangarch [φαλαγγάρχης]. This unit is sometimes called a *strategia* [στρατηγία] and its commander a *strategos* [στρατηγός]. Two *phalangarchiae* form a *diphalangarchia* [διφαλαγγαρχία] of 8,192 men in 512 files. This is sometimes called a *meros* [μέρος]. It is, in fact, one wing of the entire phalanx. Two *diphalangarchiae* make a *tetraphalangarchia* [τετραφαλαγγαρχία] of 1,024 files containing 16,384 men.

Thus the sum total of a complete phalanx is two *diphalangarchiae*, four *phalangarchiae*, eight *merarchiae*, sixteen *chiliarchiae*, thirty-two *pentacosiarchies*, sixty-four *syntagmae*, 128 *taxes*, 512 *dilochiae* and 1,024 *lochoi*.⁴

ι' Πόσοι ἡγεμόνες ἐν τῇ φάλαγγι

Καὶ ὁ μὲν ἄριστος τῶν φαλαγγαρχῶν ἐπὶ τοῦ δεξιοῦ κέρατος τέτακται, ὁ δὲ δευτερεύων ἐπὶ τοῦ εὐωνύμου. ὁ δὲ κατ' ἀρετὴν τρίτος, [μετὰ τῆς δευτέρας εἰς ἀριστερόν, εἰς πρὸς τὴν μέσσην ἀποτομήν]^a [ἐπὶ τῆς δεξιᾶς ἀποτομῆς].^b ὁ δὲ τέταρτος [μετὰ τῆς τρίτης εἰς δεξιὸν καὶ αὐτῆς ὡς πρὸς τὴν μέσσην ἀποτομήν].^c ὡς τε τὴν πρώτην καὶ [τετάρτην]^d φαλαγγαρχίαν ἡγουμένους ἔχειν κατ' ἀρετὴν πρώτην [τε]^e δύναμιν ἔχοντας καὶ τετάρτην, τὴν δὲ [δευτέραν]^f καὶ τρίτην φαλαγγαρχίαν ἡγουμένους ἔχειν κατ' ἀρετὴν τάξιν ἔχοντας δευτέραν καὶ τρίτην. δείξομεν δέ, ὅτι ἡ πρώτη καὶ τετάρτη δύναμις ἴση ἐστὶ τῇ δευτέρᾳ καὶ τρίτῃ, ὥστε τοὺς ἡγεμόνας ἰσοδυναμεῖν.

οἱ δὲ μεράρχαι καὶ αὐτοὶ τάσσονται οὕτως, ὥστε τὸν μὲν πρωτεύοντα τάσσεσθαι τῆς πρώτης φαλαγγαρχίας ἐπὶ τοῦ εὐωνύμου, τὸν δὲ δευτερεύοντα ἐπὶ τοῦ δεξιοῦ τῆς δευτέρας φαλαγγαρχίας, τὸν δὲ τρίτον ἐπὶ τοῦ εὐωνύμου τῆς τρίτης φάλαγγος. ὁ δὲ τέταρτος ἐπὶ τοῦ δεξιοῦ τῆς τετάρτης φάλαγγος τάσσεται. ὁμοίως δὲ καθ' ἐκάστην τετραρχίαν οἱ λοχαγοὶ [οὕτω]^g τάσσονται, ὥστε τὸν τοῦ πρώτου λόχου λοχαγὸν κατ' ἀρετὴν διαφέρειν, τὸν δὲ τοῦ τετάρτου λόχου λοχαγὸν δευτερεύειν τῇ δυνάμει,

οὕτω γὰρ ἰσοδυναμήσουσιν αἱ διλοχίαι κατ' ἀρετὴν ἢ γὰρ πρώτη διλοχία τὸν πρῶτον κατ' ἀρετὴν ἔχει καὶ τὸν τέταρτον, ἢ δὲ δευτέρα τὸν δεύτερον καὶ [τὸν]^h τρίτον κατ' ἀρετὴν. δέικνυται δὲ ἐν τοῖς μαθήμασιν, ὅταν ᾧσιν ἐν τέτταρσι μεγέθεσιν ἀναλογίαι, τὸ ὑπὸ τοῦ πρώτου καὶ τετάρτου ἴσον γινόμενον τῷ ὑπὸ δευτέρου καὶ τρίτου. ἐπεὶ δὲ ἐν ἐκάστῳ

συντάγματι τέσσαρες εἰσι τετραρχίαι, τῇ αὐτῇ ἀναλογίᾳ καὶ τὰ συντάγματα διακοσμήσομεν, ὥστε ἐν ἐκάστῳ συντάγματι τῆς πρώτης τετραρχίας τὸν τετράρχην [ὑπὸ]i τοῦ δεξιοῦ τετάχθαι καὶ πρωτεύειν κατ' ἀρετὴν, τὸν δὲ τῆς τετάρτης τετραρχίας τετράρχην εὐώνυμον εἶναι καὶ δευτερεύειν κατ' ἀρετὴν, τὸν δὲ τῆς τρίτης τετραρχίας τετράρχην δεξιὸν εἶναι καὶ τρίτον κατ' ἀρετὴν, τὴν δὲ δευτέραν τετραρχίαν εὐώνυμον ἔχειν τὸν τετράρχην καὶ τέταρτον κατ' ἀρετὴν. τὴν δὲ αὐτὴν ἀναλογίαν ἔχουσι καὶ αἱ μείζονες ἡγεμονίαι πρὸς αὐτάς.

10. The officers within the phalanx¹

The best, and first in rank, of the *phalangarchs* is posted in command of the *phalangarchia* on the right wing and is positioned at the head of the most right-hand file of that unit.² The next officer down in rank is posted to command the *phalangarchia* on the left wing and is positioned at the head of the most left-hand file of that unit. He who holds the third place, as dictated by his valour, is posted in command of the *phalangarchia* second from the left and is positioned at the head of the most right-hand file of that unit, towards the middle of the whole phalanx. The fourth officer is posted on the right wing with the first *phalangarch*, and is in command of the *phalangarchia* second from the right and is positioned at the head of the most left-hand file of that unit, also towards the middle of the whole phalanx. (See [Figure 2](#).) As such, the first and fourth *phalangarchiae* are commanded by officers of the first and fourth degree of valour, while the second and third *phalangarchiae* have leaders of a proportionate degree of reputation.³ The right wing of the line [i.e. the first and fourth *phalangarchiae*] is equal, in terms of the efficiency of its leaders, to the left wing [i.e. the second and third *phalangarchiae*] as the skill and bravery of the commanders is equally distributed in each.

The *merarchs* are positioned in a similar way. He who is ranked highest is posted in command of the *merarchia* on the left-hand side of the first *phalangarchia* on the right wing, and is positioned at the head of the most left-hand file of that unit. The second-ranked *merarch* is posted in command of the *merarchia* on the right-hand side of the second *phalangarchia* on the left wing and is

positioned at the head of the most right hand file of that unit. The officer ranked third is posted in command of the *merarchia* on the left-hand side of the third *phalangarchia* and is positioned at the head of the most left-hand file of that unit. The fourth ranked *merarch* is posted in command of the *merarchia* on the right-hand side of the fourth *phalangarchia* and is positioned at the head of the most right-hand file of that unit.⁴ (See [Figure 3](#).) The leaders of each of the four files in a *tetrarchia* [i.e. the *lochargoī*] are similarly arranged.⁵ The leader of the first file [on the right] is he who has the most experience, and the fourth-ranked officer holds a position next to him [i.e. to his left]. The second-ranked file leader commands the left-hand file, while the third ranked file leader holds the position next to him [i.e. on his right]. (See [Figure 4](#).)

By these means, the *dilochiae* within the *tetrarchia* have an equal share of strength, for the right-hand *dilochia* has leaders of the first and fourth rank while the left-hand *dilochia* has commanders of the second and third rank. (See [Figure 4](#).) it is clear, mathematically speaking, that when proportions exist in four analogous quantities, that the sum of the first and fourth quantities will equal the sum of the second and third quantities. As there are four *tetrarchiae* in every *syntagma*, each *tetrarchia* is drawn up in a similar way so that, in every *syntagma*, the commander of the first *tetrarchia* is placed on the right and ranks first. The fourth *tetrarchia* is positioned to his left, then comes the third *tetrarchia* and then the second. The same proportions also exist in the higher levels of command.

ια' Πόσον τόπον κατέχει ὁ ὀπλίτης τεταγμένος

Νῦν δὲ καὶ περὶ τῶν διαστημάτων, ὧν ἀπ' ἀλλήλων ἀφεστᾷσιν οἱ ὀπλῖται κατὰ τε μῆκος καὶ κατὰ βάθος, δηλώσομεν. διαφοραὶ δέ εἰσι τρεῖς. πρῶτον μὲν γὰρ τάσσονται ἐν ἀραιότεροις διαστήμασιν ἐνίων χάριν χρεῖων. τεταγμένος μὲν οὖν ὁ ἀνὴρ κατέχει πῆχεις τέσσαρας, πεπυκνωμένος δὲ κατέχει πῆχεις δύο, συνησπικῶς δὲ κατέχει πῆχυν. ἔστι δὲ πύκνωσις, ὅταν ἐκ τῶν ἀραιότερων διαστημάτων ἐλάσσονα τὰ διαστήματα ποιήσας [πυκνώση]^a κατὰ παραστάτην καὶ ἐπιστάτην, [τουτέστι]^b κατὰ μῆκος καὶ κατὰ βάθος, οὕτως μέντοι, ὥστε [ἐπιδέχεσθαι]^c μεταβολήν. συνασπισμὸς δὲ ἐστίν, ὅταν [τοῖς]^d τῆς προειρημένης πυκνώσεως ἔτι μᾶλλον ἢ φάλαγξ πυκνωθῇ κατὰ παραστάτην [καὶ ἐπιστάτην],^e ὥστε διὰ τὴν συνέχειαν τοῦ στρατοῦ μὴ χωρεῖν κλίσιν μήτε ἐπὶ τὰ δεξιὰ, μήτε ἐπὶ τὰ εὐώνυμα.

γίνεται δὲ ἡ πύκνωσις, ὅταν ὁ στρατηγὸς βουλευθῇ [ἀπάγειν]^f τὴν φάλαγγα ἐπὶ τοὺς ἐναντίους, ὁ δὲ συνασπισμὸς πρὸς τὸ [τὴν]^g τῶν πολεμίων ἔφοδον [πεφραγμένως]^h ὑποστῆναι. ἐπεὶ οὖν εἰσι χίλιοι καὶ εἴκοσι τέσσαρες οἱ κατὰ μέτωπον [τῆς φάλαγγος]ⁱ τεταγμένοι λοχαγοί, δῆλον, ὅτι τεταγμένοι μὲν καθέξουσι πῆχεις [τετραχίλιους]^j ἐνενήκοντα ἕξ τοῦ μήκους, [τουτέστι]^k στάδια δέκα καὶ πῆχεις ἐνενήκοντα ἕξ, πεπυκνωκότες δὲ καθέξουσι σταδίους πέντε καὶ πῆχεις τέσσαράκοντα ὀκτώ, συνησπικότες δὲ καθέξουσι σταδίους δύο καὶ ἥμισυ πῆχεις εἴκοσι τέσσαρες.

11. How large an interval each armed man occupies¹

We will now examine the space allocated to the infantry in terms of both width and depth as there are three different proportions. In the first instance, the men are sometimes arranged in an open order when the situation calls for such a deployment.² When so drawn up, each man occupies a space of 4 cubits [*pecheis*, πήχεις] (192cm).³ When arranged in an intermediate order, each man occupies 2 cubits (96cm) and, when arranged in a close order, he occupies a space of 1 cubit (48cm). The intermediate order occurs when a commander decreases the intervals between the men in both rank and file [i.e. from an open-order] and, in doing so, lessens the extent of his formation by reducing its width and depth, yet still leaving enough room for rapid movement. The interlocking of shields [*synaspismos*, συνασπισμοῖς], or the close order, is effected when the entire phalanx is further reduced by width and depth to the point that the men stand almost shoulder to shoulder.⁴ (See [Plate 4](#).)

Intermediate-order formations are used when a commander advances against an enemy. Close-order formations are used when he wishes to firmly resist an enemy's attack. Consequently, it follows that when 1,024 file leaders are arranged across the front of the phalanx in open order, the formation will have a frontage of 4,096 cubits (around 1,966m) or 10 *stadia* and 96 cubits.⁵ When arranged in intermediate order, the formation will occupy 5 *stadia* and 48 cubits (983m). When deployed in close order, the formation will occupy 2½ *stadia* and 24 cubits (491m).

ιβ' Πῶς δεῖ καθοπλίζεσθαι τοὺς ὀπλίτας, καὶ μέτρα τῶν ὀπλῶν καὶ δοράτων

Ἡ δὲ ὀπλισις [ἐστι]a τῆς φάλαγγος ἀσπίσι καὶ δόρασιν. ἀσπίς μὲν οὖν ἐστίν [ἡ]b ἀρίστη χαλκῇ, Μακεδονικῇ, οὐ λείαν κοίλῃ, ὀκταπάλαιστος. δόρυ δὲ μὴ ἔλαττον [ὀκταπήχεος],c τὸ δὲ μήκιστον [μετὰ]d τοῦ δύνασθαι ἄνδρα κρατοῦντα χρῆσθαι εὐμαρῶς.

12. How the men are armed and the size of the shield and spear¹

The arms of a phalanx are shields and pikes. The Macedonian shield, made of bronze, is best.² it must not be too concave and should be 8 ‘palms’ [*oktapalaistos*, ὀκταπάλαιστος] in diameter.³ The pike should not be shorter than 8 cubits (384cm) and the longest pike should not exceed a length that allows a man to wield it effectively.⁴

ιγ' Ὅτι δεῖ τὸ πρῶτον ζυγὸν ἀρίστων ἀνδρῶν εἶναι καὶ στομώματος τάξιν ἐπέχειν

Δεῖ δὲ τοὺς λοχαγούς, ὡς ἂν ἡγεμόνας [ὄντας]^a τῶν ἐν τῇ φάλαγγι λόχων, ἀρίστους εἶναι πάντων, ὥστε μεγέθει τε καὶ ῥώμῃ τῶν ἄλλων διαφέρειν ἐμπειρία τε προκεκρίσθαι. τοῦτο γὰρ τὸ ζυγὸν συνέχει τὴν φάλαγγα καὶ τὴν μεγίστην χρεῖαν παρέχει. ὥσπερ γὰρ μάχαιρα τῷ ἑαυτῆς [στοματι]^b βάρος καὶ σήκωμα τὸν τοῦ ἐπικειμένου σιδήρου ὄγκον προσλαβοῦσα τὴν αὐτῆς δύναμιν παρέχει, τὸν αὐτὸν τρόπον καὶ φάλαγγος ὑποληπτέον [στόμα]^c μὲν εἶναι τὸ τῶν λοχαγῶν τάγμα, ὄγκον δὲ καὶ σήκωμα καὶ βάρους πρόσθεσιν τὸν κατὰ [νώτους]^d τασσόμενον ὄχλον. φροντιστέον δὲ ἐκ [τῶν]^e ἐνδεχομένων καὶ [τοῦ]^f δευτέρου ζυγοῦ. συνεπεκτείνεται γὰρ τὸ δόρυ καὶ τούτων τῶν ἀνδρῶν, καὶ πλησίον συνταπτόμενον [παρεδρεύει]^g χρεῖαν ἐν [πολλοῖς]^h παρεχόμενον, καὶ πεσόντος ἢ τραυματισθέντος τοῦ λοχαγοῦ προελθὼν εἰς τὸ πρόσθεν συνέχει τὴν τάξιν ἀρραγῇ. τὸ δὲ τρίτον ζυγὸν καὶ τὰ ἐξῆς ἐκ [τοῦ πρὸς λόγον καθὼς]ⁱ τῇ δυνάμει ὑποβέβληκεν.

13. How the best men hold the positions at the front of the formation and where the ‘mouth’ of the line is located¹

It is proper that the file leaders, who are the commanders of all of the files throughout the entire phalanx, should be the best soldiers in the army, excelling all others in stature, strength and military skill, for this front rank keeps the entire phalanx intact; and this is of the utmost importance. Just as a sword presents the effect of its edge, increased by the stroke and the weight of the iron towards its back, so the rank of file leaders may be considered the edge of the phalanx, receiving its power, impetus and momentum from the mass of men that presses forward from the rear.² Similarly, attention must be paid to those in the second rank, for the pikes of those within it are projected forward together with those of the front rank and, being positioned immediately behind the latter, are of great use in emergencies.³ For, in the case that the file leader should fall or receive a wound, the man directly behind him, stepping into his place, closes the gap in the line and preserves its integrity. Additionally the third rank, and those who follow in succession, are classed, respectively, according to the quality of strength and valour that they possess.⁴

ιδ' Ὡς ἡ Μακεδονικὴ φάλαγξ ἐν τούτοις παρετάσσετο

Ἡ δὲ Μακεδονικὴ φάλαγξ τοῖς πολεμίοις ἀνύποιστος ἐδόκει διὰ τὴν ἐν ταῖς τάξεσι κατασκευήν. ὁ γὰρ ἀνὴρ [ἴσταται]^a σὺν τοῖς ὄπλοις κατὰ τὰς ἐναγωνίους πυκνώσεις [καὶ]^b ἐν πῆχεσι δύο. τὸ δὲ τῶν [σαρισσῶν]^c μέγεθος ἐστὶ κατὰ μὲν τὴν ἐξ ἀρχῆς ὑπόθεσιν ἐκκαίδεκα πηχῶν, κατὰ δὲ τὴν ἀλήθειαν δεκατεσσάρων. τούτων δὲ δύο πῆχεις [ἀφαιρεῖται]^d τὸ μεταξὺ τοῖν χεροῖν διάστημα τῆς προβολῆς. αἱ δὲ [λοιπαὶ]^e δέκαδυο πῆχεις προπίπτουσι πρὸ τῶν σωμάτων. [ἐκ]^f τούτων οἱ ἐν τῷ δευτέρῳ ζυγῷ [ὑποβεβηκότες τοῖς προστάταις πῆχεις τέσσαρες ἐν τῇ φάλαγγι ἀφαιρούμενοι τὴν σάρισαν ἔχουσι προπίπτουσιν ὑπὲρ τοὺς ὀπλίτας τοὺς ἐν τῷ πρώτῳ]^g πῆχεις δέκα. οἱ δὲ ἐν τῷ τρίτῳ ζυγῷ [ὑπεραίρουσαν]^h τοὺς πρωτοστάτας πῆχεις ὀκτώ, οἱ δὲ ἐν τῷ τετάρτῳ ἕξ, οἱ δὲ ἐν τῷ πέμπτῳ πῆχεις τέσσαρας, οἱ δὲ ἐν τῷ ἕκτῳ δύο. καὶ πάντες οἱ κατόπιν οὐκ ἔχουσι τὰς [σαρίσσας τῶν τοῦ πρώτου ζυγοῦ]ⁱ ὑπερεχούσας.

διὸ καὶ καθ' ἕκαστον τῶν ἐν τῷ πρώτῳ ζυγῷ τεταγμένων [σάρισσαι]^j πέντε [ἢ καὶ ἕξ]^k προβεβλημένοι οἷαν εἰκὸς ὄψιν πολεμίοις παρέχουσι, καὶ ἰσχὺν δὲ τοῦ ἀνδρὸς πέντε [ἢ καὶ ἕξ]^l [σαρίσσαις]^m πεφραγμένου [καὶ [τοσαύτας]ⁿ δυνάμεσιν ἐπερειδομένου]^o [ὅπερ ἐστὶ σκοπεῖν].^p καὶ οἱ μετὰ τὸ πέμπτον δὲ ζυγόν, [εἰ]^q καὶ μὴ ταῖς [σαρίσσαις]^r ἐνεργοῦσι, τῷ βάρει τῶν σωμάτων ἐπιβρίθοντες ἰσχυροτέραν ποιοῦσι τὴν δύναμιν καὶ τοῖς πρωτοστάταις ἀνέλπιστον φυγεῖν.

ἐνιοὶ δὲ τὰ τῶν ὀπίσω τεταγμένων ὀπλιτῶν δόρατα

μακρότερα τῶν ἔμπροσθεν κατεσκεύασαν, ἵνα καὶ οἱ μέχρι [τούτου]^s ζυγοῦ ἢ τετάρτου τεταγμένοι τὰς [αἰχμὰς]^t ἐξ ἴσου τοῖς ἀντιπαρατεταγμένοις ἐπιφέρωσιν.

Ὁ δὲ καθ' ἕκαστον σύνταγμα ἑκτακτος οὐραγὸς ἔστω συνετός, ὅλου τοῦ συντάγματος προνοούμενος, ἵνα στοιχῶσι καὶ ζυγῶσιν ἀλλήλοις, τοὺς τε ἀναδυομένους διὰ δειλίαν ἢ δι' ἄλλην τινὰ αἰτίαν [κωλύων]^u εἰς τάξιν καθεστάναι. ἐν [τε]^v τοῖς συνασπισμοῖς, ἐάν τις χρεῖα γένηται, [ἀναγκάση]^w συνερεῖδειν τοὺς ἄνδρας ὅτι μάλιστα ἀλλήλοις. τοῦτο γάρ ἐστι τὸ τὴν ἰσχὺν τῷ τάγματι παρεχόμενον, ἵνα μὴ μόνον ἐν [τῷ]^x μετώπῳ, ἀλλὰ καὶ ἐπ' οὐράς τοῦ τάγματος κύριός τις ὑπάρχη τῶν προειρημένων ἔνεκεν αἰτιῶν.

14. How the Macedonian phalanx is organized¹

The phalanx, due to the nature of its configuration, has been regarded as irresistible.² Each soldier, when completely armed and arranged in an intermediate order, occupies a space of only 2 cubits (96cm).³ The length of the pikes, when the phalanx was first created, was 16 cubits (768cm) but is, in fact, now 14 cubits (672cm).⁴ Two cubits (96cm) of this length are taken up by the grip, being the distance between the hands, while the remaining 12 cubits (576cm) project ahead of the body.⁵ Thus the weapons carried by the second rank, losing 4 cubits [i.e. 2 cubits for the grip of the man in the second rank, and 2 cubits for the interval occupied by the man in the front rank], project 10 cubits (480cm) beyond the front rank. The pikes of the third rank therefore project 8 cubits (384cm) beyond the front, those of the fourth rank project 6 cubits (288cm), those of the fifth rank project 4 cubits (192cm), and those of the sixth rank project 2 cubits (96cm) beyond the front.⁶ The men in the remaining ranks have no part of their pike that can extend beyond the front rank.⁷ (See [Plate 5](#).)

As five or six pikes project beyond the front of the line, there can be no doubt that this would appear terrifying to an attacker, and each individual within the formation, surrounded by five or six pikes and supported by the men behind him, would hold a great level of confidence. Additionally, those who form the ranks behind the sixth, although they cannot bring their pikes to bear against an enemy, by pressing forward with the weight of their bodies, increase the momentum of the phalanx and leave no

possibility of seeking safety in flight to those in the forward ranks.⁸

There are some who would have the pikes of the rear ranks progressively longer than those carried by the forward ranks so that the tips of the weapons carried by the third or even fourth rank will project the same distance as those carried by the front rank and also be able to reach an opponent.⁹

Furthermore, the supernumerary rear-commander [*ouragos*] of every *syntagma* should be a man of intelligence. He should see to it that every man in his line holds their position in both rank and file, and he should compel any man who is quitting his post, either from cowardice or on any other account, to resume it again. When a close-order formation is called for, the *ouragos* should ensure that his men lock up as close together as possible, for it is this that gives stability to the whole formation and is of great consequence. It is for these reasons that a soldier who is equal to the duties of a superior officer is placed not only at the front of the line, but at the rear of the line also.

ιε' Περὶ τῶν ψιλῶν· πῶς αὐτοὺς δεῖ τετάχθαι

Αὐτάρκως δὲ εἰρηκότες περὶ τοῦ καταλοχισμοῦ τῶν ἐν τῇ
φάλαγγι ὀπλιτῶν, νῦν καὶ περὶ τῶν ψιλῶν δηλώσομεν.
ταγήσονται δὲ ὑπο τοῦ στρατηγοῦ πρὸς τὰς τῶν πολεμίων
παρασκευάς, [ὁτὰς]a μὲν προτασσόμενοι [ὅταν δὲ ὀπίσω]b τῆς
φάλαγγος, [ὅτε δὲ ἐκ τῶν δεξιῶν καὶ εὐωνύμων, οτὲ δὲ
ὑποτασσόμενοι ὀπίσω τῆς φάλαγγος],c ὥς ἂν ἀπαιτῇ τὸ
πρᾶγμα. νῦν δὲ συντετάχθωσαν οὕτως. λόχους μὲν καὶ ἐν τοῖς
ψιλοῖς τάξομεν [χιλίους]d καὶ εἴκοσι τέσσαρες, τοὺς ἴσους
[τῶν]e ἐν τῇ φάλαγγι, ὥστε ὑπὸ [τὸν]f πρῶτον [λόχον]g τῶν
ὀπλιτῶν τὸν πρῶτον λόχον τῶν ψιλῶν τετάχθαι, [καὶ]h ὑπὸ
τὸν δεύτερον [τὸν δεύτερον],i καὶ ὁμοίως κατὰ τὸ ἐξῆς, οὐ
μέντοι δεκαῆξ ἀνδρῶν, [εἶναι ἀλλὰ τοὺς]j [ῥημίσεις]k ἐξ ὀκτώ
ἀνδρῶν, ὥστε τοὺς [χιλίους]l καὶ εἴκοσι τέσσαρες λόχους
ἀνδρῶν εἶναι [ὀκταχίλιους]m καὶ ἑκατον καὶ ἑνενήκοντα δύο.

15. Light troops, how they are organized¹

Having already treated at length all of the things concerning the proper positioning of the armed infantry within the main body of the phalanx, I will now elaborate on the deployment of the light-armed *psiloi*. They must be posted by the commander in such a manner as the order of battle chosen by the enemy dictates. Sometimes the *psiloi* will be positioned in the front of the line, while at other times they will be positioned behind the line, depending upon the tactical requirements of each situation. They may, for example, be formed in this manner: arranged into 1,024 files (the same number of files as are in the phalanx itself) they will, however, be positioned so that the first file of *psiloi* is directly behind the first file of the phalanx, the second file of light troops behind the second file of the phalanx, and so on. The files of the light infantry ought not to be sixteen men deep, but only half that number, namely eight deep. Thus, 1,024 files of light troops will contain 8,192 men.²

ιβ' Ὅτι χιλίους εἴκοσι τέσσαρας λόχους τῶν ψιλῶν

Ὄνόματα δὲ αὐτῶν καὶ τάξεις εἰσὶν αἱ ὑποτεταγμέναι. οἱ τέσσαρες λόχοι τῶν ψιλῶν [καλοῦνται]a σύστασις, ἀνδρῶν τριάκοντα δύο, αἱ δὲ δύο συστάσεις πεντηκονταρχία, ἀνδρῶν ἐξήκοντα τέσσαρες, αἱ δὲ δύο πεντηκονταρχίαι ἑκατονταρχία, ἀνδρῶν ἑκατον καὶ εἴκοσι ὀκτώ. καθ' ἑκάστην δὲ ἑκατονταρχίαν ἑκτακτοὶ [ἀνδρες]b ἔσονται πέντε. σημειοφόρος [καὶ]c οὐραγὸς [καὶ]d σαλπικτῆς [καὶ]e ὑπηρέτης [καὶ]f στρατοκῆρυξ. αἱ δὲ δύο ἑκατονταρχίαι εἰσὶ μὲν ἀνδρῶν διᾱκόσιοι καὶ πεντήκοντα ἕξ, καλεῖται δὲ ψιλαγία. αἱ δὲ [δύο]g ψιλαγαὶ ξεναγία, ἀνδρῶν πεντακόσιοι καὶ δώδεκα. αἱ [δὲ]h δύο ξεναγαὶ σύστρεμμα, ἀνδρῶν χιλίοι καὶ εἴκοσι τέσσαρες. τὰ δὲ δύο συστρέμματα ἐπιξεναγία, ἀνδρῶν δισχιλίοι καὶ τέσσαράκοντα ὀκτώ. αἱ δὲ δύο ἐπιξεναγαὶ στίφος, ἀνδρῶν τετραχιλίοι καὶ [ἐνηνῆκοντα]i [ἕξ].j τὰ δὲ δύο στίφη ἐπίταγμα, λόχων μὲν χιλίοι καὶ εἴκοσι τέσσαρες, ἀνδρῶν δὲ ὀκταχιλίοι καὶ ἑκατον καὶ [ἐνηνῆκοντα]k δύο. δεῖ δὲ καὶ τούτοις ὑπάρχειν [ἀνδρας]l ὀκτὼ ἐκτάκτους, ὧν οἱ μὲν τέσσαρες ἔσονται ἐπιξεναγοί, οἱ δὲ [τέσσαρες]m συστρεμματάρχαι.

16. On the 1,024 files of light troops¹

The name and size of the various units of light troops are as follows: four files make up what is called a *systasis* [σύστασις] containing thirty-two men. Two *systases* make up a *pentacontarchia* [πεντηκονταρχία] containing sixty-four men. (See [Plate 6](#).) Two *pentacontarchiae* make up a *hecatontarchia* [ἑκατονταρχία] containing 128 men. In each *hecatontarchia* there should be five supernumeraries [*ektaktoi*, ἑκτακτοι]: a standard-bearer [*semeiphoros*, σημειφόρος], a rear commander [*ouragos*, οὐραγός], a trumpeter [*salpigktēs*, σαλπικτής], an aide-de-camp [*huperetēs*, ὑπηρέτης], and a herald [*stratokērux*, στρατοκιῆρυξ]. Two *hecatontarchiae*, containing 256 men, are called a *psilagia* [ψιλαγία]. Two *psilagiae* make a *xenagia* [ξεναγία] of 512 men. Two *xenagiae* form a *systremma* [σύστρεμμα] of 1,024 men.² Two *systemmae* make an *epixenagia* [ἐπιξεναγία] of 2,048 men. Two *epixenagiae* form a *stiphos* [στίφος] containing 4,096 men. Two *stiphoi* form an *epitagma* [ἐπίταγμα] of 8,192 men arranged in 1,024 files. These ought to have eight supernumeraries, four of whom command the *epixenagiae*, while four are the *systemmatarchs*.³

ιζ' Περὶ τῆς εὐχρηστίας τῶν ἀκροβολιστῶν

Ὁ δὲ ἀκοντιστὴς καὶ ὁ τοξότης καὶ πᾶς ὁ ἀκροβολιστικοῖς
χρῶμενος πρὸς τὸ κατάρξασθαι καὶ ἐκκαλέσασθαι καὶ τὰ ὅπλα
κατακόψαι καὶ τραύματα καὶ πτώματα ἐκ διαστήματος
ποιῆσαι καὶ τὰς τάξεις διαλυῖν καὶ ἵππον ἀποκρούσασθαι καὶ
[τόπους ὑπερδεξίους θᾶπτον καταλαβέσθαι καὶ]^a τοὺς
προκατειλημμένους βάλλοντας [ὑποχωρεῖν]^b ἀναγκάσαι καὶ
τοὺς ὑπόπτους τῶν τόπων ἐρευνῆσαι καὶ ἐνέδρας
παρασκευάσαι. τὸ δὲ ὅλον εἰπεῖν, [αὐτοὶ]^c καὶ
προαγωνιζόμενοι καὶ συναγωνιζόμενοι [καὶ ἐπιμαχόμενοι καὶ
καθόλου τὰς ὁξείας καὶ ἐξ ἀποστήματος πράξεις
παρεχόμενοι]^d πολλὰ καὶ μεγάλα κατεργάζονται περὶ τὰς
μάχας.

17. On the use of missile troops¹

Javelineers, archers and all of those who cast missiles of any kind are of use to open a battle, to provoke the enemy, to damage their defences, to inflict wounds, to kill from a distance, and to disrupt their ranks.² They are also useful to repulse an early and ill-formed charge of cavalry, to drive back advanced skirmishers, to probe into areas where an enemy ambush may lay in wait, as well as to occasionally lay in ambush themselves. In other words, by commencing an attack before other troops, and by supporting them once they are engaged, missile troops produce many important effects in battle.

ιη' Πόσα εἶδη τῆς ἱππικῆς συντάξεως τοῖς ἀρχαίοις ἐπενόηθη

Τὰς δὲ τῶν ἱππέων τάξεις ἤτοι τετραγώνους ἢ ἑτερομήκεις ἢ ῥομβοειδεῖς ἢ ἑμβολοειδεῖς οἱ [πρὸς]a ἡμῶν συνέταξαν. οὐδεὶς δέ, ὡς ἔπος εἶπεῖν, σαφῶς ἡμῖν παρέδωκε τὸ βούλημα, διόπερ ἡμεῖς καὶ ἐπὶ καταγραφῆς τὰ σχήματα τάζομεν, ὅπως εὐσύνοπτα γένηται.

ταῖς μὲν οὖν ῥομβοειδέσι δοκοῦσι Θεσσαλοὶ κεχρηῆσθαι ἐν ἱππικῇ πολὺ δυνηθέντες, Ἰάσονος, [σφασί]b, πρώτου τὸ σχῆμα τοῦτο ἐπινοήσαντος ὡς ἐπιτηδειότατον πρὸς πάσας τὰς χρεῖας, καὶ τάχιστα μὲν πρὸς ἐκάστην ἐπιφάνειαν στρέφεσθαι δυναμένων τῶν ἐν τῷ σχήματι τούτῳ τεταγμένων ἱππέων. ἥκιστα δὲ κατὰ νώτου καὶ [πλαγίων]c ἀλίσκεσθαι. τοὺς τε γὰρ ἀρίστους τῶν ἱππέων ἐπὶ τῶν πλευρῶν τοῦ ῥόμβου τάσσεσθαι καὶ κατὰ τὰς γωνίας τοὺς ἡγεμόνας. ἐπὶ μὲν τῆς ἔμπροσθεν γωνίας τὸν ἰλάρχην, ἐπὶ δὲ τῆς δεξιᾶς καὶ εὐωνύμου γωνίας τοὺς καλουμένους πλαγιοφύλακας, ἐπὶ δὲ τῆς λοιπῆς τὸν οὐραγόν.

ταῖς δὲ ἑμβολοειδέσι Σκύθαι δοκοῦσι κεχρηῆσθαι καὶ Θρᾷκες, καὶ Μακεδόνες [δὲ]d ἐχρήσαντο Φιλίππου τοῦτο εἶση γησαμένου. τὴν γὰρ χρεῖαν ἐνεργεστέραν ταύτας ἔχειν μᾶλλον τῶν τετραγώνων ὑπέλαβον διὰ τὸ κύκλῳ τοὺς ἡγεμόνας τετάχθαι, τὸ δὲ μέτωπον βραχὺ τι γενόμενον καὶ τὴν [διίππευσιν]e εὐχρηστον ποιεῖν διὰ τοῦ τυχόντος διαστήματος καὶ τὴν ἀναστροφὴν [καί]f ἐπιστροφὴν σύντομον. οὐ γὰρ ἔχειν δυσκόλους τὰς περιαγωγάς, ὥσπερ [τὰς]g τετραγώνους.

ταῖς μέντοι τετραγώνοις ἐχρήσαντο Πέρσαι τε καὶ Σικελοὶ

καὶ τῶν Ἑλλήνων οἱ πλεῖστοι, πεπεισμένοι καὶ τὴν σύνθεσιν ἔχειν εὐχερεστέραν καὶ τὴν συνίππευσιν καὶ τὴν χρεῖαν [πολλῷ]h βελτίω. τὴν τε γὰρ σύνταξιν εὐχερεστέραν [ἔχειν]i κατὰ τε στίχον καὶ κατὰ ζυγόν, τεταγμένων [καὶ μόνων τούτων]j πάντας τοὺς ἡγεμόνας [ἀθρόως]k ἐμπίπτειν τοῖς πολεμίοις.

ἄρισται δέ εἰσιν αἱ διπλάσιον τὸν ἀριθμὸν [τὸν]l ἐν τῷ μήκει ἔχουσαι ἢ περ ἐν τῷ βάθει, οἷον ὁκτὼ μὲν τὸ μήκος, τέσσαρες δὲ τὸ βάθος, ἢ δέκα μὲν τὸ μήκος, πέντε δὲ τὸ βάθος. αὗται δὲ τῷ μὲν ἀριθμῷ εἰσιν ἑτερομήκεις, τῷ δὲ σχήματι γίνονται τετράγωνοι. τὸ γὰρ [τοῦ]m ἵππου ἀπὸ κεφαλῆς ἐπὶ οὐρὰν μήκος πρὸς τὸ πλάτος συγκρινόμενον τοὺς κατὰ [τὰ]n [ζυγὰ]o τασσομένους τῶν κατὰ τοὺς στίχους πλείονας ἔχειν ὀφείλει. ἔνιοι δὲ τριπλάσιον ἐποίησαν τὸν ἀριθμὸν τῶν ἐν τῷ μήκει τεταγμένων παρὰ τοὺς ἐν τῷ βάθει, οὕτως δοκοῦντες τετράγωνον ποιήσῃν τὸ σχῆμα. δοκεῖ γὰρ τριπλάσιον ὥς ἐπίπαν εἶναι τὸ μήκος τοῦ ἵππου τοῦ κατὰ τοὺς ὦμους πλάτους, ὅθεν ἐννέα ἐν τῷ μετώπῳ τάσσοντες τρεῖς ἐν τῷ βάθει ποιοῦσιν.

οὐδὲ γὰρ τὸ πλῆθος τῶν ὀπισθεν [ἱππέων]p τὴν αὐτὴν ὠφέλειαν παρέχει, ἣν ἐπὶ τῶν πεζῶν τὸ βάθος ὀπισθεν ἐπερείδοντες. οὐδὲν γὰρ συμβάλλονται πρὸς τὴν σφοδρότητα τῆς ἀντερείσεως. οὐδὲ γὰρ ἐπωθοῦσιν οὐδὲ συνέχουσι τοὺς πρὸ ἑαυτῶν τοῦ σύμπαντος πλήθους ἐν τι βάρους ἀποτελοῦντος, ἐπιβάλλοντες δὲ τοὺς πρὸ ἑαυτῶν κακοποιήσουσιν, ἑαυτοὺς μᾶλλον [ἢ]q τῶν ἐναντίων [ἐν]r ἐκταράξαντες τοὺς ἵππους.

διόπερ [αἰεὶ]s συμβαίνει, ὅταν ἴσος [ὁ]t ἀριθμὸς τῶν ἱππέων ὁ τοῦ μήκους πρὸς [τὸ]u βάθος τυγχάνῃ, τὸν μὲν ἀριθμὸν τετράγωνον γίνεσθαι, τὸ δὲ σχῆμα ἑτερόμηκες τοῦ βάθους μείζονος ὄντος ἢ τοῦ μήκους. ὅταν δὲ τὸ σχῆμα τῆς [ἵλης]v τετράγωνον ᾖ, ὁ ἀριθμὸς τῶν ἱππέων γίνεται ἑτερομήκης.

18. What the ancients thought about cavalry formations¹

Several previous authors have discussed the arrangement of cavalry into squares, parallelograms, the rhombus and the wedge.² Unfortunately, none of these former writers have expressed themselves clearly. In order to make the concepts better understood, the descriptions shall be combined with figures so that the meaning may be comprehended with one glance of the eye.

The Thessalians, who were powerful in cavalry, seem to have been the first to have organized their horse into the rhombus (a formation originally attributed to Jason) as a formation adaptable to best meet all emergencies, as horse drawn up in such a formation are ready to face in any direction with the utmost speed and are less likely to be attacked from the flanks or rear.³ The best men are placed along the outside edges of the rhombus while the officers are positioned at the corners. The commander of the troop [*ilarch*, ἱλάρχης] is posted into the leading corner of the formation, the flank-guards [*plagiophylakai*, πλαγιοφύλακαι] are positioned in the corners on the left and right-hand sides, and a fourth officer [*ouragos*, οὐραγός] is posted into the rearward corner. (See [Plate 7](#).)

The Scythians and the Thracians seem to have been the first to have drawn up their cavalry into a wedge formation. (See [Plate 8](#).) This formation was later adopted by the Macedonians, introduced into their armies by Philip, who considered the wedge formation more useful than the square, as the officers are placed all around

the outside and, with such a narrow frontage, the motions of the squadron are easily performed and it passes swiftly through any given space. Added to this, movement such as wheeling and returning to the original position are performed in a shorter time and are less circuitous than when performed in a square.

The Persians, the Sicilians and, generally speaking, the Greeks used square formations, being of the opinion that they were more easily formed and better suited to the easy preservation of the formation and general use. The formation can be created with greater ease, whether arranged by rank or file. Additionally, in this form only, the experienced officers have the ability to charge the enemy simultaneously.⁴

Those squares are the best that have twice the number of men across the width of the formation as there are to its depth, such as eight in width and four deep, or ten in width and five deep; for, although the relative proportions of rank to file will differ, the square shape will remain as the length of a horse, from head to tail, compared to its breadth will allow for more men and mounts in the ranks than in the files to make a complete square. Some commanders make the width of the formation three times greater than its depth, convinced that this more readily creates a regular square, as the length of a horse is generally three times the width of its shoulders and breast. Consequently, such formations may have a width of nine and a depth of three. (See [Plate 9](#).)

Those following in the rear ranks in no way support the leaders as happens in infantry formations.⁵ The rear ranks do not contribute to how well an enemy charge is resisted, nor do they increase the momentum of those before them, nor close up with them, nor, holding on to each other, make a solid mass.⁶ If the leading files are pressed forward from the rear, the horses become annoyed, create disorder and are more likely to do harm to themselves than to the enemy.

If it ever happens that the number of men is equal in terms of both width and depth, then a square is formed in regards only to

the numbers, but the formation actually takes on an oblong configuration, whereas if the formation itself is actually square in shape, then the number of men in the ranks and files has to be unequal. (See [Plate 9](#).)

ιθ' Πῶς τῶν ῥομβοειδῶν ἱππέων

Δοκεῖ δὲ τὸ ῥομβοειδὲς σχῆμα ἀναγκαιότατον παρειληφθαι. τοῦ γὰρ [ιλάρχου]^a πρώτου τασσομένου οἱ ἐξ ἐκατέρου μέρους τασσόμενοι ἱππεῖς οὐκ ἐξ ἴσου τῷ [ιλάρχῃ]^b ζυγεῖν ὀφείλουσιν, ἀλλὰ ὑποβεβηκέναι ὥστε τὰς κεφαλὰς [τῶν ἱππέων]^c αὐτῶν κατὰ τοὺς ὤμους τοῦ ἵππου τοῦ [ιλάρχου]^d τετάχθαι, διαστήματά τε ἀπ' ἀλλήλων τοὺς ἱππέας ἔχειν τοὺς τε [ἐκ τῶν δεξιῶν μερῶν]^e καὶ [τῶν]^f εὐωνύμων ὄντας καὶ τοὺς ὀπίσω ἐν τοῖς μέρεσι τεταγμένους, ἵνα μὴ ἡ συνέχεια τάραχον ἐμποιῇ λακτίσμασί τινῶν περιπιπτόντων πολλακίς τῶν ἵππων [καὶ]^g τραχυτέρων τὰς φύσεις ὄντων, ἐν τε τῷ ἀναστρέφειν ἵνα μὴ παράμηκες ὦν τὸ ζῶον εἰς τοὺς πλησίον ἵππους ἐντινάσσον [τραύματα]^h τοῖς ἀγωνιζομένοις παρέχεται.

Τῶν [δὲ]ⁱ ἐν τοῖς ῥομβοειδέσι σχήμασι τὴν ἵππον συνταξάντων οἱ μὲν οὕτως ἔταξαν, ὥστε τοὺς ἱππέας καὶ [στοιχεῖν καὶ ζυγεῖν],^j [οἱ δὲ μήτε ζυγεῖν μήτε στοιχεῖν],^k οἱ δὲ στοιχεῖν μὲν οὐκέτι δὲ ζυγεῖν, οἱ δὲ ζυγεῖν μὲν [οὐ στοιχεῖν δέ].^l ἑκάστη δὲ τάξις οὕτως ἔχει οἱ μὲν τοὺς ῥόμβους καὶ [στοιχεῖν καὶ ζυγεῖν]^m βουληθέντες ἔταξαν τὸν μέγιστον [τῶν]ⁿ ἐν τῇ [ἴλῃ ζυγόν]^o μέσον ἐξ ἀριθμοῦ περισσοῦ, [οἷον ἑνδεκα τρίτου, ἢ δεκαπέντε],^p ἐφ' ἐκάτερα δὲ τούτου τοῦ ζυγοῦ ἔταξαν ὦν μὲν ἔμπροσθεν ὦν δὲ ὀπισθεν, ἕκαστον [δὲ]^q αὐτῶν δυοῖ τοῦ προτέρου λειπόμενον, οἷον, εἰ ὁ μέγιστος ζυγὸς ἱππέων [ἢ δεκαπέντε],^r ἕκαστον τῶν ἐφ' ἐκάτερα αὐτοῦ [δεκατρεῖς]^s ἱππεῖς [ἔχειν],^t τοὺς δὲ μετὰ τούτους ἐφ' ἐκάτερα [ἀνὰ]^u ἑνδεκα, καὶ ἀεὶ δυοῖ λειπομένους, ἕως εἰς καταλειφθῇ καὶ ἡ ὅλη ἴλη γένηται ἱππέων ἑκατὸν δεκάτριῶν. τὸ δὲ ἡμῖς

τοῦ ρόμβου ἔμβολον καλεῖται εἰς τρίγωνον μετασχηματιζόμενον. ὥς τε ἐν ταυτῷ δεδῆλωται καὶ τὸ [τοῦ]^v ἐμβόλου σχῆμα.

ἄλλοι δὲ [οὕτως]^w συνέταξαν, ὥστε τοὺς ἐν [τῷ]^x ρόμβῳ κατατεταγμένους ἱππείας μήτε στοιχεῖν μήτε ζυγεῖν, εὐχερεστέρας ἐν τούτῳ τῷ σχήματι τὰς ἐπιστροφὰς καὶ διππεύσεις ὑπολαμβάνοντες [μήτε ἐκ τῶν ἔμπροσθεν],^y μήτε ἐκ τῶν δεξιῶν ἢ εὐωνύμων, μήτε ἐκ τῶν ὀπισθεν ἐμπόδιόν τι περιεχούσας. τάσσουσι δὲ πρῶτον μὲν τὸν [ἱλάρχην],^z εἶτα τὸν ἐκ δεξιῶν τοῦ [ἱλάρχου]^{aa} καὶ ὁμοίως τὸν ἐξ εὐωνύμων ὑπεσταλκότας, [ἵνα ὥς]^{ab} εἴπομεν, αἱ κεφαλαὶ [τῶν ἱππων τούτων κατὰ]^{ac} τοὺς ὤμους [τῶν προτεταγμένων ἱππων τυγχάνωσι].^{ad}

καὶ τὸ μὲν πρῶτον τάγμα ἐκ [περισσοῦ ἀριθμοῦ]^{ae} ἱππέων, οἷον ἑνδεκα, τοῦ μὲν [ἱλάρχου]^{af} μέσου τεταγμένου, πέντε δὲ ἐφ' ἐκάτερα ὑποβεβηκότων, ὥστε τοῦτο τὸ ζυγὸν τὰς δύο τοῦ ρόμβου πλευρὰς περιέχειν, ὀπίσω δὲ τοῦ ἱλάρχου τετάχθαι τὸν ζυγάρχη, εἶτα ἐφ' ἐκάτερα τούτου ὁμοίως ὑποβεβηκότας, ὅλον δὲ [τὸν]^{ag} τοῦ ἐξῆς [οἰονεῖ]^{ah} ζυγοῦ ἀριθμὸν δυάδι τοῦ προτέρου λείπειν, ὥστε ἐφ' ἐκάτερα τοῦ ζυγάρχου τέσσαρας τετάχθαι καὶ τὸν ὅλον τοῦ δευτέρου τάγματος ἀριθμὸν ἐννέα εἶναι, καὶ τοῦτο δὲ τὸ ζυγὸν [ῶσανεῖ]^{ai} ταῖς πρώταις δυσὶ πλευραῖς τοῦ ρόμβου παραλλήλους δύο πλευρὰς [ποιεῖ],^{aj} τὸ δὲ τρίτον ἐπτά, καὶ οὕτω μέχρι ἐνός, καὶ γίνεται ἡ [ἴλη]^{ak} αὕτη ἱππέων τριάκοντα ἕξ. τούτῳ δὲ τῷ σχήματι τῆς ἴλης κέχρηται Πολύβιος ἀνδρῶν μέντοι ἐξήκοντα τέσσαρες ἐν σχήματι τοῦ Δ στοιχείου.

ἄλλαι δ' εἰσὶν, αἵπερ συνίστανται ἐκ στοιχοῦντων μὲν, οὐκέτι δὲ [καὶ]^{al} ζυγούντων, αἵτινες οὕτω συντάττονται. στίχον ἐποίησαν ἐξ ὅσων δήποτε ἱππέων, ὣν ὁ μὲν ἡγούμενος ἱλάρχης ἐστίν, ὁ δὲ ἔσχατος οὐραγός, [καὶ]^{am} ἐφ' ἐκάτερα ἄλλους στίχους τάξας ἕκ τε τῶν δεξιῶν καὶ εὐωνύμων μερῶν [ἐν]^{an} ἀριθμῷ λειπομένους, [οὗ]^{ao} κατὰ μέσα τὰ διαστήματα ἀφέστηκεν [ὁ]^{ap} ἐν τῷ πρώτῳ στίχῳ ἱππεὺς ἀπὸ ἱππέως τοῦ

ἐφ' ἐκάτερα [παραστήσαι].[aq](#) κἂν ὧσιν οἶον [ἐπὶ][ar](#) τῷ πρώτῳ
στίχῳ δέκα ἵπποι, ἐν τῷ ἐφ' ἐκάτερα ἀνὰ ἐννέα ἔσσονται, οἱ δ'
[ἐν τοῖς ἔτι][as](#) ἐφ' ἐκάτερα ἀνὰ ὀκτώ, καὶ [οὕτῳ][at](#) μέχρι ἐνὸς
ἀεὶ [δὲ τῶν ἐν τοῖς][au](#) ἐφεξῆς στίχοις. [οὕτῳ][av](#) γὰρ συμβήσεται
στοιχεῖν μὲν ἀλλήλοις τοὺς ἱππέας, μηκέτι δὲ ζυγεῖν.
εὐχρηστον δὲ καὶ τοῦτό ἐστι πρὸς τὰς εἰς τὰ πλάγια γιγνομένας
κλίσεις. [καλεῖται δὲ ἡ μὲν εἰς τὰ δεξιὰ [ἐπὶ δόρυ][aw](#) κλίσις],[ax](#)
ἡ δὲ εἰς τὰ εὐώνυμα ἐφ' ἡνία.

ἐὰν δὲ ἡ [ἴλη][ay](#) ἐκ ζυγούντων μὲν, μὴ στοιχούντων δὲ
γίνεται, τάξομεν αὐτὴν οὕτως. τὸ μέσον ὅλης τῆς [ἴλης][az](#)
μέγιστον ζυγὸν [ἐκ][ba](#) περιττοῦ ἀριθμοῦ ποιήσομεν, τοὺς δὲ ἐφ'
ἐκάτερα ζυγοὺς κατὰ [μέσα τὰ][bb](#) διαστήματα ποιήσομεν, ὡς
ἐπὶ στοιχούντων ἐτάξαμεν, καὶ γενήσεται ἡ ἴλη ἐκ ζυγούντων
μὲν, οὐκέτι δὲ στοιχούντων.

19. On the cavalry rhombus formation¹

The rhombus formation seems to have been adopted as it was thought to be a form highly necessary for war. When the leader of the troop [*ilarch*] is placed at the head of the formation, the next succeeding horsemen, on either side of him, ought not to form a rank behind the leader, but should be positioned so that the heads of their horses reach to the shoulders of the horse upon which the leader is mounted. To allow the men to preserve the due distance from each other, those that are posted on the right and left, and those positioned to the rear, should avoid the disorder that can arise in the case of the horses coming into close contact with each other; for some horses, vicious by nature, are apt to do harm to the soldiers and horses around it by bucking and rearing and turning about (due to its long shape) and by lashing out with its feet at the horses upon which the soldiers are mounted.

Those who deploy the cavalry into a rhombus occasionally arrange them in a manner that preserves both file and rank, while other formations have neither rank nor file.² other formations have files but not ranks, while in others they have ranks but not files. Those formations that contain both files and ranks create the longest rank (which stretches across the middle of the formation) of an odd number such as eleven or thirteen or fifteen. To this central rank are joined a forward and a rearward rank, which each have two men less than the rank next to it; that is, if the central rank contained fifteen men, then the next rank towards either the front or rear would contain thirteen men, and the next after that

eleven, and so on, until they come to a single man. The whole formation in this case will be made up of 113 men.³ Half of a rhombus is a wedge, taking a triangular form, so that the wedge can be seen within the structure of the rhombus.⁴ (See [Plate 9](#).)

Others have deployed the rhombus so that it possesses neither continuous ranks nor files. This was done in the belief that wheeling and other such movements might be more easily executed with little or no impediment to the horses from left, right or rear. With this in mind, the *ilarch* or troop leader was placed in the front. Then one horseman was placed on his left and another on his right so that, as has been already mentioned, the heads of their horses reach to the shoulders of the horse upon which the *ilarch* is mounted.

The leading sides of the rhombus are made from an odd number of men, such as eleven, with the commander in the front and five men posted on either side, retiring to the left and right, so that these men constitute the leading sides of the formation. After the *ilarch* is posted the *zygarch* [ζυγάρχης], or first man of the line, whom others follow in a similar order, so that the number of each succeeding angular line of the rhombus is shorter than that which comes before it by two. (That is, the next line of the rhombus, headed by the *zygarch*, consists of four men on each side, making nine men in all, including the officer.) This line will be parallel with the front line on the exterior leading sides. The third line, also parallel, will consist of seven men, with each subsequent line slowly decreasing to an individual man. The whole troop will consist of thirty-six men. Polybius represented a line of troops in this configuration, consisting of sixty-four men, by the capital letter Λ.⁵

There is a rhombus of another sort, which has files but not ranks, and it is formed in the following way. A file is drawn up of any given number of horsemen with the commander being placed at its head and the *ouragos* positioned at its rear. Beside this are placed other files, on the left and right, each less in number than

the more central file by one man. Each man in this new file is positioned adjacent to the intervals between each horse within the more central file, and at the same distance as he himself holds from the files on either side of him. As such, if there are ten men in the central file, there should be nine in the two nearest files, eight in the two following files, and the remaining files should gradually decrease down to an individual. Consequently, the formation will contain files but not ranks. (See [Plate 10](#).) This formation will enable the whole body of men to wheel to the left or right with ease. Wheeling to the right is called ‘inclining to the lance’ and wheeling to the left is called ‘inclining to the reins’.

If a formation is arranged so that it has ranks rather than files, it should be deployed in the following way: the central and longest rank should be drawn up with an odd number of men. The remaining ranks must be drawn up with the men positioned opposite the intervals as in the preceding example [of a rhombus with files but not ranks] and thus a troop will be formed with ranks but not files.⁶

κ' Ὅτι αἱ εἴλαι ποτὲ μὲν πρὸ τῆς
φάλαγγος τάσσονται, ποτὲ δὲ ἐκ
δεξιῶ· καὶ εὐωνύμων, ποτὲ δὲ
ὀπισω τῶν ψιλῶν.

Τάσσονται δὲ αἱ ἴλαι, ὥσπερ τὰ ψιλὰ, ποτὲ μὲν [πρὸ]a τῆς
φάλαγγας. ποτὲ δὲ [ἐκ]b δεξιῶν καὶ [ἐξ]c εὐωνύμων, ποτὲ δὲ
ὀπίσω τῶν [ψιλῶν]d ἐτάχθησαν. καὶ ἡ μὲν πρώτη ἴλη [τῶν]e
ἱππέων ἔστω ἐξήκοντα τέσσαρες. καὶ τὸ μὲν πρῶτον ζυγόν,
ἱππέων πεντακαίδεκα. τὸ δὲ ἐξῆς τρεισκαίδεκα. τὸ δὲ μετὰ
ταῦτα ἔνδεκα. καὶ αἰ τὰ ἐξῆς ζυγὰ δυσὶ τῷ ἀριθμῷ λειπόμενα
μέχρι ενός. σημειοφορήσει δὲ ὁ ἐν τῷ δευτέρῳ [ζυγῷ]f
παρεστηκώς ἐκ τῶν εὐωνύμων τῷ ζυγάρχη. ἔσσονται δὲ αἱ
παῖσαι ἴλαι ἐξήκοντα τέσσαρες. ἱππεῖς δὲ τετραχίλιοι [καὶ]g
ένενήκοντα ἕξ.

καλοῦνται δὲ αἱ δύο [ἴλαι ἐπιλαρχία],h ἱππέων ἑκατον καὶ
εἴκοσι ὀκτώ, αἱ δὲ δύο ἐπειλαρχίαι Ταραντιναρχία, ἱππέων
διᾱκόσιοι καὶ πεντήκοντα ἕξ. αἱ δὲ δύο Ταραντιναρχίαι
ἱπαρχία, ἱππέων πεντακόσιοι καὶ δώδεκα. αἱ δὲ δύο ἱπαρχίαι
ἐφιπαρχία, ἱππέων χίλιοι καὶ εἴκοσι τέσσαρες. αἱ δὲ δύο
ἐφιπαρχίαι τέλος, ἱππέων δισχίλιοι καὶ τέσσαράκοντα ὀκτώ.
τὰ δὲ δύο τέλη ἐπίταγμα, ἱππέων [τετραχιλίων ένενήκοντα
ἕξ].i

20. How the cavalry is positioned before or to the right of the phalanx or behind the light infantry¹

The formations of cavalry, in the same manner as the light infantry, are posted sometimes in front of the phalanx, sometimes on the right flank, sometimes on the left flank, and sometimes behind the light infantry. In this example, let us suppose that the first troop [*ilē*, ἰλη] will consist of sixty-four men.² The principal line will consist of fifteen men, the second line thirteen men, the next eleven men, and each succeeding line will contain two less in number than the former, down to a single man. The standard is carried by the man who is posted in the second rank from the front, on the left of the *zygarch*. A formation so arranged will be sixty-four in number and the whole contingent of cavalry will number 4,096.³

Two *ile* are called an *epilarchia* [ἐπιλαρχία] containing 128 horsemen. Two *epilarchiae* are called a *Tarantinarchia* [Ταραντιναρχία] containing 256 horsemen.⁴ Two *Tarantinarchiae* are called a *hipparchia* [ἵππαρχία], which contains 512 horsemen. Two *hipparchiae* are given the name *ephipparchia* [ἐφιππαρχία], which contains 1,024 men. Two *ephipparchiae* are called a *telos* [τέλος] of 2,048 men.⁵ A double *telos* is called an *epitagma* [ἐπίταγμα] and contains 4,096 men.⁶

κα' Περὶ τῶν ἱππέων

Αἱ μὲν οὖν ἐπιβολαὶ τῶν ἀρχαίων περὶ τὰς [τάξεις]^a τῶν [ἰλῶν]^b δεδηλωμέναι εἰσὶ πᾶσαι, καθ' ὁποίου σχηματισμοῦ ἕκαστοι ταύτας ἔταξαν καὶ δι' ἃς αἰτίας ἄλλοι ἄλλαις ἐχρήσαντο. δεῖ δὲ ὡς ἐν πράγμασι περὶ τῶν ὅλων διαφέρουσιν οὐκ ἀπεσχεδιασμένην γενέσθαι τὴν παράδοσιν, ἀλλ' ἐν τοῖς καθημερινοῖς γυμνασίοις ἕκαστον τῶν σχημάτων πολλάκις δοκιμάσαντα καὶ τὸ εὐχερέστερον καὶ τὸ ὠφελιμώτερον γνόντα, τότε καὶ ἐπὶ τῆς ἀληθείας χρήσασθαι. εὐηθες γὰρ [μὲν τῶν]^c ἐλαττόνων πραγμάτων ἐπ' ἀκριβὲς τοὺς ἀνθρώπους εὐρίσκεσθαι διαποροῦντας πολλὰ καὶ ἐξετάζοντας, περὶ δὲ τούτων μὴ πρότερον τὴν ἐντελεστάτην βάσανον λαβόντας τότε πρὸς τοὺς [μεγίστους]^d ἀγῶνας πορεύεσθαι. ἔξεστι μέντοι καὶ μείζονας καὶ ἐλάττους τὰς [ἴλας]^e ποιεῖν.

21. Concerning cavalry

The various customs of the ancients concerning cavalry have now been explained and we have seen the forms in which cavalry have been arranged by different nations, influenced by different motives.¹ What has come down to us should not only be habitually treasured in our memory, as it contains information of great importance, but we should also endeavour, by daily exercise, to put their precepts into practice and acquire a knowledge of those movements and dispositions that may be executed with the greatest ease and may prove to be of the greatest use in actual service. It is certainly absurd that men diligently pursue the study of inferior matters, but do not enquire into these affairs, and only then begin to learn the art of tactics when they join battle with the enemy. For example, squadrons of cavalry should be drawn into larger or smaller formations as seem good to the commander.

κβ' Περὶ συντάξεως ἐλεφάντων καὶ δρεπανηφόρων

Περὶ δὲ τῆς τῶν ἁρμάτων συντάξεως καὶ τῶν ἐλεφάντων, εἰ καὶ τὴν χρῆσιν αὐτὴν σπανίζουσιν εὐρίσκομεν, ὅμως πρὸς τὸ τέλειον τῆς γραφῆς τὰς ὀνομασίας ὑποθησόμεθα, αἷς κατεχρήσαντο οἱ πρὸ ἡμῶν. ἐπὶ γὰρ τοῖς [ζευτικοῖς]^a τὰ δύο ἅρματα ζυγαρχίαν ἐκάλεσαν, τὰς δὲ δύο ζυγαρχίας συζυγίαν, τὰς δὲ δύο συζυγίας ἐπισυζυγίαν, τὰς δὲ δύο ἐπισυζυγίας ἁρματαρχίαν, τὰς δὲ δύο ἁρματαρχίας κέρας, τὰ δὲ δύο κέρατα φάλαγγα. ἔξεστι δὲ πλείοσι φάλαγξιν ἁρμάτων χρῆσθαι ταῖς αὐταῖς ὀνομασίαις καθ' ἐκάστην φάλαγγα συγχρωμένοις. τοῖς δ' [ἅρμασι]^b οἱ μὲν ψιλοῖς κατεχρήσαντο, οἱ δὲ [δρεπανηφόρα]^c κατεσκεύασαν.

Ἐπὶ δὲ τῶν ἐλεφάντων ὁ μὲν ἐνὸς ἐλέφαντος ἄρχων ζώαρχος καλεῖται, ὁ δὲ τῶν δύο θήραρχος καὶ τὸ σύστημα θηραρχία, ὁ δὲ τῶν τεσσάρων ἐπιθήραρχος καὶ τὸ σύστημα [ἐπιθηραρχία],^d ὁ δὲ τῶν ὀκτὼ ἰλάρχης καὶ τὸ σύστημα ἰλαρχία, ὁ δὲ τῶν ἐκκαίδεκῶν ἐλεφαντάρχης καὶ τὸ σύστημα ἐλεφανταρχία, ὁ δὲ [τῶν]^e τριάκοντῶν δύο κερατάρχης [ἢ μεράρχης]^f καὶ τὸ σύστημα κεραταρχία, τὸ δὲ ἐκ τῶν ἐξήκοντῶν τέσσαρες συνεστηκὸς φάλαγγα ὀνομάζομεν ἐλεφάντων καί, ἂν τις τὸν τῶν κεράτων ἡγούμενον βούληται προσονομάζειν, φαλαγγάρχην.

22. The arrangement of elephants and scythe-bearing chariots¹

As to the method of drawing up chariots [*harma*, ἄρμα] and elephants [ἐλέφαντοι] in order for battle, although they are of small value, the works of previous writers will be drawn upon here lest this work seem deficient. In the joining of chariot to chariot, a group of two of them is called a *zygarchia* [ζυγαρχία]. Two *zygarchiae* [i.e. four chariots] is called a *syzugia* [συζυγία], and two *syzugiae* [i.e. eight chariots] is called an *episyzugia* [ἐπισυζυγία]. Two *episyzugiae* [i.e. sixteen chariots] form a *harmatarchia* [ἄρματαρχία], and two *harmatarchiae* [i.e. thirty-two chariots] make a *keras* [κέρας]. Two *kerai* [i.e. sixty-four chariots] make up a phalanx of chariots. It is allowable to employ many of these formations within an army and to make use of the same terms in every phalanx. Some armies use light chariots [*psiloi*, ψιλοῖς] while others use those that are armed with scythes [*drepanophoroi*, δρεπανηφόροι].

In the arrangement of elephants, the commander of one elephant is called a *zoarch* [ζώαρχος]. The commander of two elephants is called a *therarch* [θήραρχος] and the two animals are called a *therarchia* [θηραρχία]. The leader of four elephants is called an *epitherarch* [ἐπιθήραρχος] and the four beasts called an *epitherarchia* [ἐπιθηραρχία]. He who commands eight elephants is called an *ilarch* [ιλάρχης] and his animals, taken together, form an *ilarchia* [ιλαρχία]. The commander of sixteen elephants is called an *elephantarch* [ἐλεφαντάρχης] and the whole body an *elephantarchia* [ἐλεφανταρχία]. The commander of thirty-two

elephants is called a *keratarch* [κερατάρχης] and the animals take the name *keratarchia* [κεραταρχία]. A body of sixty-four elephants is called a phalanx of elephants, and the commander of the two combined *keratarchiae* is called a *phalangarch* [φαλαγγάρχης]. [2](#)

κγ' Περὶ τῶν ὀνομάτων, οἷς χρῶμενοι οἱ τακτικοὶ τὰ παραγγέλματα πρὸς τὸν πόλεμον χρειώδη σημαίνουσιν

Τὰ μὲν οὖν εἶδη τῆς τελείας δυνάμεως καὶ τὰ ὀνόματα τῶν ἐν
τούτοις συστημάτων τοῦτον ἔχει τὸν τρόπον [ὦν]^a
τεθεωρημένον. ἐξῆς περὶ τῶν ὀνομάτων χρήσιμον εἰπεῖν, ὅπως,
ὅταν [οὔν]^b ὁ στρατηγὸς [παραγγέλλῃ τι γενέσθαι],^c
συνεθισθέντες ἐν ταῖς ἐξοπλισίαις τοῖς τε ὀνόμασι καὶ ταῖς
τῶν σχημάτων κινήσεσι [ῥαδίως]^d τὰ προστασσόμενα ποιεῖν
δύνωνται.

λέγεται δὲ τὸ [μὲν τι]^e κλίσις, καὶ τῆς κλίσεως ἡ μὲν ἐπὶ
δόρυ, ἡ δὲ [ἐπ']^f ἀσπίδα. λέγεται δέ τις καὶ μεταβολὴ καὶ
ἐπιστροφή καὶ ἀναστροφή καὶ περισπασμός [καὶ
ἐκπερισπασμός],^g στοιχεῖν τε καὶ ζυγεῖν καὶ [ἐπὶ ὀρθήν]^h
ἀποδοῦναι καὶ ἐξελίσσειν καὶ διπλασιάζειν. λέγεται δέ [τις
καὶ]ⁱ ἐπαγωγὴ καὶ δεξιὰ παραγωγὴ καὶ εὐώνυμος παραγωγὴ
καὶ πλαγία φάλαγξ καὶ ὀρθία φάλαγξ ἢ λοξὴ φάλαγξ καὶ
παρεμβολὴ καὶ [πρόταξις]^j καὶ ἔνταξις καὶ ὑπόταξις καὶ
ἐπίταξις καὶ [πρόσταξις].^k ἐκάστου δὲ ὀνόματος τὴν σημασίαν
διὰ [συντόμου]^l δηλώσομεν. οὐκ ἄγνοῶ δ' ὅτι [οὐ]^m παρὰ πᾶσι
τοῖς τακτικοῖς τὰ παραγγέλματα ταῖς αὐταῖς ὀνομασίαις
δεδήλωται.

23. The names and uses of the tactical manoeuvres conducted by the army¹

Having detailed the various sorts of forces that form a complete army, and having assigned the names to the various parts, it seems proper to discuss other terms next, so that when the commander orders any manoeuvre to be performed, the soldiers, accustomed to the exercise and practised in the words of command and the necessary movements, will perform all that is required with ease.

The general term *klisis* [κλίσις] may be regarded as the turning either to the pike or to the shield. Then there is the movement called *metabolē* [μεταβολή], or ‘facing about an individual’, that called *epistrophē* [ἐπιστροφή], or ‘wheeling’, *anastrophē* [ἀναστροφή], or ‘reverse wheeling’, and *perispasmos* [περισπασμός], or ‘facing about a formation’. There are also the commands to form ranks [*zygein*, ζυγεῖν] and files [*stoichen*, στοιχεῖν] and to return to the original position [*es orthon apodounai*, ἐς ὀρθὸν ἀποδοῦναι], to counter-march [*exelissein*, ἐξελίσσειν] and to double [*diplasiazein*, διπλασιάζειν]. There is also the term *epagogē* [ἐπαγωγή], or ‘induction’, and *paragogē* [παραγωγή], or ‘deduction’, to either the left or right. There is also the command to form the transverse phalanx [*phalanx plagia*, φάλαγξ πλαγία], the right-aligned phalanx [*phalanx orthia*, φάλαγξ ὀρθία], and the oblique phalanx [*phalanx loxē*, φάλαγξ λοξή], as well as the *entaxis* [ἐντάξις], or ‘insertion’, *hypotaxis* [ὑπόταξις], or ‘deploying in crescent’, *epitaxis* [ἐπίταξις], or

‘positioning behind’, and *protaxis* [πρόταξις], or ‘positioning before’. We shall now examine the meaning of these various terms, keeping in mind that other tactical writers have not used the same technical expressions.

κδ' Τί ἐστι κλίσις καὶ μεταβολή καὶ ἐπιστροφή

Κλίσις μὲν οὖν ἐστὶν ἢ κατ' ἄνδρα κίνησις, ἢ ἐπὶ δόρυ [ἐπιστρέψαντος]^a τοῦ ὀπλίτου, [τουτέστι]^b ἐπὶ τὰ δεξιὰ μέρη, ἢ ἐπ' ἀσπίδα, [τουτέστι]^c ἐπὶ τὰ εὐώνυμα μέρη, ὅπερ γίνεται εὐχρηστον πρὸς τὰς ἐκ τῶν πλαγίων ἐπιφανείας τῶν πολεμίων ὑπερκεράσεως χάριν ἢ ἀντιπορείας καὶ ἐτέρων χρειῶν, αἱ καθ' ἕκαστον πρᾶγμα δηλωθήσονται. αἱ δὲ δύο ἐπὶ τὸ αὐτὸ γινόμεναι κλίσεις ἐπὶ τὴν κατὰ νώτου ἐπιφάνειαν τὴν ὄψιν τοῦ ὀπλίτου μετατιθέασι. καὶ τὸ τοιοῦτο καλεῖται μεταβολή. γίνεται δὲ καὶ αὕτη ἢ μὲν ἐπὶ δόρυ, ἢ δὲ ἐπ' ἀσπίδα. [[πρώτη στάσις, ἢ γουν ἢ ἐξ ἀρχῆς πρώτη κλίσις ἐπὶ δόρυ δευτερα κλίσις. ἣτις καὶ μεταβολή λέγεται]^d μεταβολή γὰρ ἐστὶν ἢ εἰς τὰ ὀπισω [κατὰ]^e ἄνδρα στοφή. ὅπερ δὲ ἐστὶ καθ' ἓνα ὀπλιτην ἢ μεταβολή, ἔστι καὶ εἰς τὸ πᾶν σύνταγμα ὁ περισπασμός.]^f δύο δὲ εἰσι διαφοραὶ μεταβολῶν, ἢ μὲν ἀπὸ τῶν πολεμίων, ἢ δὲ ἐπὶ τοὺς πολεμίους. ὅρος δὲ ἐστὶ τῆς μεταβολῆς μετάληψις τῆς προϋπαρχούσης ἐπιφανείας εἰς τὴν κατ' οὐρὰν ἐπιφάνειαν ἢ ἀπὸ ταύτης ἐπὶ τὴν ἐναντίαν. καὶ ἢ μὲν ἀπὸ τῶν πολεμίων μεταβολή δις ἐπὶ δόρυ κλινάντων γίνεται, ἢ δὲ ἐπὶ τοὺς πολεμίους δις ἐπ' ἀσπίδα.

ἐπιστροφή δὲ ἐστὶν, ὅταν [πεπυκνωμένου]^g ὄντος τοῦ συντάγματος, καὶ μὴ δυναμένου κατ' ἄνδρα ἢ κλίσιν ἢ μεταβολὴν ποιήσασθαι διὰ τὴν πύκνωσιν, [ἐπιστραφῇ]^h ὅλον τὸ σύνταγμα ἡνωμένως, ὥπερ πλοῖον, καὶ ἐν σῶμα μετακινούμενον ἀδιαλύτου μενούσης τῆς τάξεως. καὶ ὅτε μὲν περὶ δόρυ στρέφεται, παραγγέλλομεν τὸν τῆς δεξιᾶς ἄκρας

λοχαγὸν ἰσθᾶναι ἀμετακίνητον, ὅϊον στρόφιγγα θύρας, τὸ δὲ λοιπὸν ἅπαν σύνταγμα περισχόμενον, ὥσπερ θύραν τὸν τοιοῦτον λοχαγὸν ποιεῖσθαι τὴν ἐπιστροφὴν. οὕτω δὲ καὶ ἐπ' ἀσπίδα ἢ ἐπιστροφή γίνεται. [ἐπιστροφή]i ἐστίν, ὅταν πυκνώσαντες τὰ συντάγματα κατὰ παραστάτην καὶ ἐπιστάτην ὅλον τὸ σύνταγμα ὡς ἑνὸς ἀνδρὸς σῶμα, ἢ ἐπὶ δόρυ, ἢ ἐπ' ἀσπίδα κλίνωμεν, ὥσ᾿ ἀν περὶ κέντρον τὸν πρῶτον λοχαγὸν ὅλου τοῦ τάγματος περιενεχθέντος, καὶ μεταλαβόντος τόπον μὲν τὸν ἔμπροσθεν, ἐπιφάνειαν δὲ τὴν ἐκ δεξιῶν διαμενόντων [ἐκάστων]j τῶν ἐπιστατῶν καὶ παραστατῶν, ὅπερ πῶς γίνεται δηλώσομεν.

ἀναστροφή δὲ ἐστίν ἀποκατάστασις ἐπιστροφῆς εἰς ὃν προκατεῖχε τὸ σύνταγμα τόπον πεπυκνωμένον πρὸ τοῦ γενέσθαι ταύτην τὴν ἐπιστροφὴν.

περισπασμὸς δὲ ἐστίν [ἤ]k ἐκ δυεῖν ἐπιστροφῶν τοῦ τάγματος κίνησις, ὥστε μεταλαμβάνειν τὸν ὀπίσω τόπον. ἐκπερισπασμὸς δὲ [ἐστίν]l ἢ ἐκ τριῶν ἐπιστροφῶν [συνεχῶν]m τοῦ τάγματος κίνησις, ὥστε μεταλαμβάνειν, ἐὰν περὶ δόρυ γίνηται, τὴν ἐξ ἀριστερῶν ἐπιφάνειαν. ἐὰν δὲ ἐπ' ἀσπίδα, τὴν ἐκ δεξιῶν.

24. Facing, turning and wheeling¹

Klisis [κλίσις], or facing, is the motion of each soldier turning to either the pike or the shield, that is to the right or left respectively. It is a movement that is of eminent use when an enemy appears on either flank, to be able to turn to the left or right wing, or to attack either of them or to accomplish any other purpose as will be examined in due order. A change of facing repeated twice turns the eyes of the soldier to a direction that is the reverse of the direction that he originally faced.² This reversal of facing is called a *metabolē* [μεταβολή]. *Metabolē* consists of turning to a new facing that is in a contrary direction to that which existed at the commencement of the motion, and can be made to either the right or the left.³ *Metabolē*, correctly speaking, only applies to the facing about of individuals. When a whole body of men turns about, the proper term is *perispasmos* [περισπασμός]. There are two different forms of *metabolē*: one for turning away from an enemy, and one for turning towards an enemy. *Metabolē* can be defined like this: a change of direction from the front towards the rear, or vice versa. A *metabolē* away from the enemy is conducted by turning towards the spear [i.e. to the right]. A *metabolē* towards the enemy is conducted by turning towards the shield [i.e. to the left].⁴ (See [Plate 11](#).)

Epistrophē [ἐπιστροφή] is performed when the formation is so locked that individuals cannot change their facing once (*klisis*) or twice (*metabolē*).⁵ Under these circumstances, the entire formation wheels about, just as a ship is put about, with the individual soldiers preserving their relative position to each other without

breaking. When it is necessary to wheel to the pike [i.e. to the right], the file leader on the right of the line stands fast, like the pivot on a gate, and the remainder of the entire formation wheels around him, not unlike the gate itself, and so completes the *epistrophē*. The *epistrophē* to the shield [i.e. to the left] is conducted in a similar manner.⁶

The motion of reversing an *epistrophē* is called *anastrophē* [ἀναστροφή] and consists of a formation, in a close order, being led back to the position that it had occupied prior to the execution of an *epistrophē*.⁷

A *perispasmos* [περισπασμός] is performed when the formation wheels twice, so that the front now faces to the rear. An *ecperispasmos* [ἐκπερισπασμός] takes place by the means of three consecutive wheelings, so that a formation that turns to the right ends up facing to the left, and a formation that turns to the left ends up facing the right.⁷

κε' Τί ἐστι στοιχεῖν. Τί ἐστι ζυγεῖν. Τί ἐστὶν εἰς ὀρθὸν ἀποδοῦναι

Στοιχεῖν δὲ λέγεται [τὸ]a ἕκαστον ἄνδρα ἐν τῷ ἑαυτοῦ λόχῳ [ἐπ']b εὐθείας εἶναι τῷ λοχαγῷ καὶ τῷ οὐραγῷ [φυλάσσονται]c τὰ ἴσα ἀπ' ἀλλήλων διαστήματα. ζυγεῖν δὲ τὸ ἐπ' εὐθείας εἶναι κατὰ μήκος [ἕκαστον]d τῶν ἐν [τῷ]e λόχῳ τῷ ζυγοῦντι αὐτῷ [ὁμοίως τὰ διαστήματα φυλάσσοντα. ζυγοῦσι δὲ τῷ μὲν λοχαγῷ]f οἱ λοχαγοὶ πάντες, τῷ δὲ τοῦ λοχαγοῦ ἐπιστάτῃ οἱ τῶν ἄλλων λοχαγῶν ἐπιστάται, καὶ κατὰ τὸ ἐξῆς οὕτως.

[ἐπ']g ὀρθὸν δὲ ἀποδοῦναί ἐστι τὸ εἰς τὴν προκαθεστῶσαν ἀπ' ἀρχῆς τοῦ ὀπλίτου ἐπιφάνειαν ἀποκαταστήσαι τὴν ὄψιν, οἶον, ἐάν [τε]h ἐπὶ τοὺς πολεμίους τεταγμένος κελευσθῇ ἐπὶ δόρυ κλῖναι, εἴτα παραγγείλῃ εἰς ὀρθὸν ἀποκαταστήσαι, δεήσει πάλιν ἐπὶ τοὺς πολεμίους τετράφθαι.

25. Forming files and ranks and restoring the original position¹

To 'form a file' is the terminology used when individual soldiers stand in the proper places, in a straight line extending from the leader to the rear officer, while preserving equal distances from each other. To 'form a rank' is the terminology used when the soldiers in the files maintain a straight line longitudinally speaking, from flank to flank. In doing so, the file leaders will form one rank, as do their immediate followers (the *epistatae*) and the other followers in their appropriate order.²

To restore the original position is to cause each soldier to face the direction in which he stood at first. For example, if a soldier faced towards the enemy, and was then ordered to turn to the left, when commanded to return to the original position, he would turn to face the enemy yet again.³

κς' Ὅτι ἐκάστου γένους ἐξελιγμῶν εἶδη γ, ὁ μὲν Μακεδονικός, ὁ δὲ Λακωνικός, ὁ δὲ Κρητικός ἢ χόριος ἢ Περσικός

Ἐξελιγμῶν δέ ἐστι γένη δύο, τὸ μὲν κατὰ λόχους, τὸ δὲ κατὰ [ζυγούς].^a εἶδη δὲ αὐτῶν ἐκάστου τρία. καλεῖται γὰρ ὁ μὲν Μακεδών, ὁ δὲ Λάκων, ὁ δὲ Χόριος, ὁ δ' αὐτὸς [Κρητικός καὶ]^b Περσικός.

Μακεδῶν μὲν οὖν ἐστὶν ὁ μεταλαμβάνων τῆς φάλαγγος τὸν ἔμπροσθεν τόπον, ἀντὶ δὲ τῆς κατὰ πρόσωπον ἐπιφανείας τὴν ὀπισθεν. Λάκων δὲ ὁ μεταλαμβάνων τῆς φάλαγγος τὸν ὀπίσω τόπον, ὁμοίως δὲ ἀντὶ τῆς ἔμπροσθεν ἐπιφανείας τὴν ὀπισθεν. ὁ δὲ [Περσικός καὶ Κρητικός καὶ χόρειος],^c οὗτος δὲ τὸν αὐτὸν τόπον ἐπέχει τῆς φάλαγγος, τῶν κατὰ μέρος ὀπλιτῶν ἀνθ' ὧν προκατεῖχον [τούτων]^d ἐτέρους μεταλαμβάνόντων, τοῦ μὲν λοχαγοῦ τὸν τοῦ οὐραγοῦ, [τοῦ δὲ οὐραγοῦ τὸν τοῦ λοχαγοῦ],^e ἀντὶ δὲ τῆς κατὰ πρόσωπον ἐπιφανείας τὴν ὀπισθεν.

οἱ δὲ κατὰ [ζυγούς]^f ἐξελιγμοὶ γίνονται, ὅταν ἐπὶ τῶν ἀποτομῶν βούληται τις τὰ κέρατα καθιστάνειν, τὰς δὲ ἀποτομὰς ἐπὶ τῶν κεράτων, χάριν τοῦ τὰ μέσα ἰσχυροποιεῖσθαι, καὶ ὁμοίως τὰ δεξιὰ [ἐκ]^g τοῖς εὐωνύμοις καὶ τὰ εὐώνυμα [ἐκ]^h τοῖς δεξιοῖς. οἱ δὲ φυλασσόμενοι κατὰ μείζονα μέρη τοὺς ἐξελιγμοὺς ποιεῖσθαι ἐγγὺς ὄντων τῶν πολεμίων κατὰ [τὰ]ⁱ συντάγματα [ποιοῦνται].^j

26. Counter-marching, the different techniques: the Macedonian, the Lakonian and the Cretan/Choral/Persian methods¹

Counter-marches are of two sorts: one by file and the other by rank. Each of these is further subdivided into three different varieties: one is called the ‘Macedonian Counter-march’, another is called the ‘Lacedaemonian Counter-march’, and the third is called the ‘Choral Counter-march’. This last form is also known as the ‘Cretan Counter-march’ or the ‘Persian Counter-march.’²

The Macedonian Counter-march is that which, by moving through and occupying the ground to the front of the phalanx, brings the foremost rank to the rear. The lacedaemonian Counter-march is that which moves through and occupies the ground to the rear of the phalanx and changes the facing of the men to the rear. The Persian Counter-march, which is also called the Cretan Counter-march and the Choral Counter-march, keeps the same ground that is occupied by the phalanx with the individual soldiers alone changing their positions, so that the file-leader assumes the position of the *ouragos* [i.e. at the rear of the file] and the *ouragos* that of the file-leader, but are facing in an opposite direction to that in which they originally stood.³

Counter-marches by rank take place when the commander chooses to transfer the units on the wings to the position occupied by the central position of the phalanx, or to move the central units

out onto the wings, in order to strengthen the interior of the line or, in like manner, to strengthen the right-hand positions by moving into them the units from the left.⁴ Prudent commanders, in the presence of the enemy, execute this movement by entire *syntagmae*.

κζ' Πῶς ἐν τοῖς λόχοις γίνεται ὁ Μακεδονικὸς ἐξελιγμός, καὶ εἰς τί χρειώδης· καὶ ὁμοίως ὁ Λάκων καὶ Κρητικὸς

Τοὺς δὲ τρόπους τῶν ἐξελιγμῶν ὡς δεῖ γίνεσθαι, ἀποδείξομεν. Μακεδῶν λέγεται, ὅταν ὁ λοχαγὸς μεταβάλληται. οἱ δὲ λοιποὶ πάντες ἀντιπαρέλθωσιν αὐτῷ ἐπ' ἀσπίδα σὺν τῷ [οὐραγῶ],^a καὶ πρὸς [ὃν εἶχεν]^b ἔμπροσθεν ἢ φάλαγξ τόπον τὸ πρότερον [ἀπελθόντες]^c στῶσι συντεταγμένως εἰς τὴν τοῦ λοχαγοῦ αὐτοῦ ἀποκατάστασιν. διὸ καὶ [τῆς]^d φυγῆς φαντασίαν παραδείκνυσι τοῖς ὀπισθεν ἐπιφανεῖσι πολεμίοις. ὁ μὲν οὖν κατὰ στίχον ἐξελιγμός Μακεδῶν προσαγορευόμενος γίνεται, ὅταν ὁ λοχαγὸς μεταβάλληται, οἱ δὲ ὀπίσω ἐκ δόρατος παραπορευόμενοι ἐφεξῆς ἀλλήλων [ιστῶνται].^e

ὁ δὲ Λάκων γίνεται, ὅταν ὁ οὐραγὸς μεταβάλληται, οἱ δὲ λοιποὶ πάντες καὶ αὐτοὶ μεταβάλλόμενοι, καὶ ἀντιπαρελθόντες μετὰ τοῦ λοχαγοῦ ταχθῶσιν εἰς ὃν πρότερον ἢ φάλαγξ τόπον ὀπισθεν εἶχεν. διὸ ἐπιδιώξεως φαντασίαν ἐμποιεῖ τοῖς ἐπιφανεῖσι πολεμίοις.

[Ιστέον ὅτι διπλασιάζεται φάλαγξ ἢ προσώποις, ἢ τόπῳ. ὅτε γοῦν ἀπὸ τοῦ βάθους τοῦ ἡμίσεις ὀπλῖται εἰς λόχους ποιήσαντους μετὰ τῶν λοιπῶν ἐπὶ μῆκος, ὥστε γυνέσθαι τοὺς λόχους ἂν χιλίοι καὶ εἴκοσι τέσσαρες, δισχίλιοι καὶ τέσσαράκοντα ὀκτώ. τοῦτο διπλασιασμός προσώπων ἐστίν. ὡ σάντως καὶ τόπῳ διπλασιάζομεν, διὰ μόνων τῶν χιλίοι καὶ

εἴκοσι τέσσαρες. λόξων παραγγείλαντες τοῦ μὲν ἐπὶ δόπυ κλίνειν, τοῦ δὲ ἐπ' ἀσπίδα, ἕως εἰς τὸ ἀρμόζον μῆκος ἐπεκτανθῇ ἢ φάλαγξ. ὥς ἀντὶ σταδίων πέντε, ἐπεκτανθῆναι εἰς σταδίους δέκα. τῷ δὲ αὐτῷ τρόπῳ διπλασιάζεται καὶ τὸ βάθος. ἢ γὰρ λόχος λόχῳ ἐντάσσεται, ἀνὴρ παράνερα. ὥστε εἶναι τὸν λοχσγὸν τοῦ δευτεροῦ λόχου ἐπιστάτην τοῦ λοχαγοῦ τοῦ πρώτου λόχου. τὸν δὲ δεῦτερον τοῦ δευτέρου λόχου δ' καὶ καθεξῆς ὥστε γενέσθαι ἕκαστον λόξον ἀνδρῶν τριάκοντα δύο. ἢ μόνους τοῦ ἑκκαίδεκα ἀνδρας ἐπεκτεινομένους εἰς τριάκοντα δύο ἀνδρῶν τόπον.]f

Λάκων δέ αὖ, ὅταν ὁ λοχαγὸς μεταβαλλόμενος ἐκ δόρατος ὄλον τὸν λόχον [παραλλάξῃ]g εἰς ἄλλον αὐτῷ ἴσον τόπον, οἱ δὲ λοιποὶ ἀκολουθοῦντες ἐφεξῆς αὐτῷ τάσσονται, ἢ ὅταν [μὲν ὁ]h οὐραγὸς μεταβάλληται. ὁ δὲ ὀπίσω αὐτοῦ τεταγμένος ἐκ δόρατος τοῦ οὐραγοῦ παραπορευόμενος [προτάσσεται]i τοῦ οὐραγοῦ, καὶ οἱ λοιποὶ ὁμοίως ἀκολουθοῦντες ἄλλος πρὸ ἄλλου τάσσεται, ἕως ἂν ὁ λοχαγὸς πρωτοστατήσῃ.

ὁ δὲ [χόρεϊος]j γίνεται, ὅταν ὁ λοχαγὸς μεταβαλλόμενος ἐκ δόρατος προάγῃ τοῦ λόχου, οἱ δὲ λοιποὶ ἐπακολουθῶσιν, ἕως ἂν ὁ λοχαγὸς σχῇ τὸν τοῦ οὐραγοῦ τόπον, ὁ δὲ οὐραγὸς τὸν τοῦ λοχαγοῦ. καὶ οὗτοι μὲν κατὰ λόχους γίνονται. τῷ [δὲ]k αὐτῷ τρόπῳ καὶ οἱ κατὰ ζυγὰ [γίνονται],l ἐάν τε κατὰ [τάγμα]m ἐξελίσσειν τις βούληται, ὥς [τε]n ὅποιον [δῆποτ' οὖν]o τάγμα ἢ τὸν ἐν αὐτῇ τῇ βάσει τόπον κατέχον [ἐξελίσσει],p ἢ τὸν τοῦ ἐν δεξιᾷ τάγματος [μεταλάβῃ]q τόπον, ἢ τὸν τοῦ ἐξ εὐωνύμων. [οὐθέν]r γὰρ τῶν προειρημένων διοίσει.

27. How to execute the Macedonian, Lakonian and the Cretan Counter-march and their uses¹

We shall now examine the manner of executing the various Counter-marches. The Macedonian Counter-march is performed in this way: the leader of each file faces about to the rear and all of the rest, beginning with the first ‘follower’, march past him while preserving their order and take up the ground which was previously in front of the phalanx, until the *ouragos* falls into place. Hence this manoeuvre has the appearance of flight to an enemy attacking from the rear. (See [Plate 12](#).) The Macedonian Counter-march by file is also performed when the leader faces about and the others, turning to the right, follow and then halt in their proper order.²

The Lacedaemonian Counter-march is performed in this way: the *ouragos* faces about, as do all of the rest and, passing with the file-leader, halt on the ground that, prior to the performance of this movement, was to the rear of the phalanx. This movement has the appearance of advancing to an enemy attacking from the rear.³

I will now discuss the proper procedure for doubling of the phalanx by space.⁴ This creates a formation with a depth of half of the hoplites within a file while the length [of the formation] remains. As such, a formation containing 1,024 files changes to 2,048 files. This is the process of doubling. The area or space is doubled when each of the 1,024 files is commanded to turn to the

spear or the shield and open the length of the phalanx, so that whereas the formation covered 5 stades (960m) previously, it now occupies 10 stades (1,920m). Another way the space can be doubled is by depth. Each file is placed within another file with the men together. As such, the file-leader of the second file is positioned behind the leader of the first file, and the second man of the second file follows on, so that each file contains thirty-two men, and within the space of sixteen men, there are thirty-two men.

In another method of performing the lacedaemonian Counter-march, the file-leader about-faces to the right and leads the remainder of the file to fresh ground, advancing to what was before the rear of the line, to a distance equal to the depth of the file and, halting his followers, preserves the distances and order. (See [Plate 13](#).) in yet another way of performing this same manoeuvre, the *ouragos* turns about, and the next man behind him, passing him on the right, halts at his proper distance to his front, and the rest, marching one before the other, are regularly halted until the file-leader arrives at his proper place.⁵

The Choral Counter-march is performed when the file-leader, facing about to his right, marches at the head of his file, which follows along behind, until he reaches the point that was occupied by the *ouragos*, who then takes the position that had been occupied by the file-leader.⁶ (See [Plate 14](#).) All of these movements are conducted by file. Counter-marches by rank, when required, are performed using the same methods, so that any unit of an army may move from the position that it originally occupied and march to the left or right, for the mode of executing the lateral movement does not differ in principle from a movement from front to rear and vice versa.⁷

κη' Ὅτι διπλασιασμῶν γένη δύο ἢ κατὰ ζυγὰ ἢ κατὰ στίχον

Διπλασιασμῶν δέ ἐστι γένη δύο, ἥτοι κατὰ ζυγὰ ἢ κατὰ βάθος. τούτων δὲ ἕκαστον ἢ τῷ ἀριθμῷ διπλασιάζεται ἢ [τῷ]^a τόπῳ. ἀριθμῷ μὲν γὰρ διπλασιάζεται τὸ μῆκος, ἐὰν [τὶ χιλίων]^b καὶ εἴκοσι τέσσαρες, [λόχων]^c δισχίλιοι καὶ τέσσαράκοντα ὀκτώ ποιῆσαι βουλώμεθα [ἐντ' αὐτῷ τῷ]^d τόπῳ τοῦ μήκους παρεμβάλλοντες εἰς τὰ μεταξὺ τῶν ὀπλιτῶν διαστήματα ἐκ τῶν ἐν τῷ βάθει ἐπιστατῶν. τοῦτο δὲ γίνεται, ὅταν πυκνῶσαι τὸ μῆκος βουληθῶμεν. ἀποκαταστήσαι δὲ ὅταν βουληθῶμεν, παραγγελοῦμεν ἐξελίσσειν τοὺς μετατεταγμένους [παραστάτας]^e εἰς οὓς προεῖχον τόπους. ἔνιοι δὲ τοὺς τοιούτους διπλασιασμοὺς ἀποδοκιμάζουσι καὶ μάλιστα ἐγγὺς ὄντων [τῶν]^f πολεμίων, τοὺς δὲ ψιλοὺς ἐφ' ἑκάτερα τῶν κεράτων ἐπεκτείνοντες καὶ ὁμοίως τοὺς ἱππέας τὴν ὄψιν τοῦ διπλασιασμοῦ οὕτως γενέσθαι παραγγέλλουσι χωρὶς [διπλασιασμοῦ]^g τῆς φάλαγγος οὕτω συντασσομένης.

διπλασιάζεται δὲ τὸ μῆκος τῆς φάλαγγος, ὅταν ἥτοι ὑπερκεράσαι τοὺς πολεμίους βούλωνται ἢ αὐτοὶ ὑπερκερασθῆναι προσδοκῶσι.

τὸ δὲ βάθος διπλασιάζεται τοῦ δευτέρου λόχου τῷ πρώτῳ ἐπιτασσομένου, ὥστε τὸν τοῦ δευτέρου λόχου λοχαγὸν ὀπίσω τάσσεσθαι [τοῦ]^h ἐν τῷ πρώτῳ λόχῳ λοχαγοῦ, τὸν δὲ ἐν τῷ [δευτέρῳ λόχῳ]ⁱ δεύτερον τοῦ πρώτου λόχου τέταρτον ταγῆναι, τὸν δὲ τοῦ δευτέρου τρίτον τοῦ πρώτου λόχου ἕκτον ταγῆναι, καὶ οὕτως κατὰ τὸ ἐξῆς, [ὥς]^j ἂν ὅλος ὁ δεύτερος λόχος κατὰ τὸν πρῶτον ταγῇ, καὶ ὁμοίως ὁ τέταρτος λόχος εἰς

τὸν τρίτον καὶ πάντες οἱ ἄρτιοι λόχοι εἰς τοὺς περιττούς. καὶ [οὗτος]k μὲν ὁ διπλασιασμός [ἀριθμῶ]l γίνεται.

[τοῦ δὲ τόπου διπλασιασμός γίνεται, ἐὰν ἐξελιγμός γένηται,]m ἥτοι τῶν παρεντεθέντων ἐξελιζάντων εἰς τὸν ὀπίσω τόπον ἀπὸ τοῦ ἔγγιστα τῷ οὐραγῶ παρεντεθέντος καὶ τῶν ἄλλων τῶν ὁμοίως παρατεθέντων ἐπακολουθούντων, ἢ καὶ διαμένοντος τοῦ ἐξ ἀρχῆς ἀριθμοῦ τοῦ στίχου οἱ ἡμίσεις ἐξελίζαντες τὸν τοῦ βάθους τόπον διπλασιάζουσιν. ἀποκαταστήσαι δὲ ὅταν βουληθῶμεν εἰς τὰς προούσας τάξεις, τοὺς ἐπεντεταγμένους ἀνακαλεσόμεθα εἰς τοὺς ἰδίους λόχους.

28. Doubling – either by rank or by file¹

There are two kinds of doubling [*diplasiazo*, διπλασιάζω], performed either by rank or by file, with respect to either number or ground. The width of the phalanx is doubled by number when the frontage of the formation, consisting of 1,024 files, is changed to 2,048 files, by moving a proper number of the ‘followers’ into the intervals between the files. This is done to make the formation more dense lengthwise.² (See [Plate 15](#).) If it is considered appropriate to revert to the original order, those who moved in a lateral direction [i.e. the rear half-files that moved forward to take up a position beside the forward half-files] are ordered to return to their original position.³ However, there are some who disapprove of doubling in this manner, especially when an enemy is close at hand, and choose rather to place the light-armed troops and the cavalry on the wings, so as to give the appearance of the phalanx being doubled, when, in fact, the phalanx remains as it was in its usual order.⁴

The phalanx is doubled lengthwise [in terms of space] to attempt to out-flank an enemy, or when there is a threat of being out-flanked.⁵

The depth of the phalanx is doubled when the second file is merged with the first, so that the leader of the second file takes his place behind the leader of the first file, the second man of the second file becomes the fourth man in the first file, the third man of the second file becomes the sixth man of the first file, and so on, until the whole second line is inserted into the first, and, in like

manner, the fourth file merges with the third, and all of the even numbered files merge into the odd numbered ones.⁶

Doubling is likewise executed by manoeuvre. If the alternate files counter-march to the rear and take up a position immediately behind the *ouragos* of the files that stand firm, this then doubles the formation's depth. Alternatively, if half of the files of the whole formation, keeping their original number, counter-march together towards the rear and then take up a position behind that half of the phalanx that has stood firm, then the depth of the phalanx will also be doubled.⁷

κθ' Τί ἐστι πλαγία φάλαγξ καὶ τί ὀρθία. Τί ἐστι λοξὴ φάλαγξ

Πλαγία δέ ἐστι φάλαγξ, ἣτις ἔχει τὸ μῆκος τοῦ βάθους πολλαπλάσιον. ὀρθία δέ, ὅταν ἐπὶ κέρας πορεύηται πολλαπλάσιον ἔχουσα τὸ βάθος τοῦ μήκους. [καθ' ὅλου]^a δὲ παράμηνες [μὲν]^b λέγεται [πᾶν πράγμα],^c ὃ ἂν τὸ μῆκος [ἔχει]^d πλεῖον τοῦ βάθους, ὀρθιον δέ, ὃ ἂν [τοῦ μήκους τὸ βάθος].^e ὡσαύτως δὲ καὶ φάλαγξ. λοξὴ δὲ ἢ τὸ μὲν [ἕτερον]^f κέρας, ὁπότερον ἂν προήρηται, πλησίον τῶν πολεμίων ἔχουσα καὶ ἐν αὐτῷ τὸν ἀγῶνα ποιούμενη, τὸ δὲ ἕτερον ἐν ἀποστάσει δι' [ὑπομονῆς]^g ἔχουσα.

29. The transverse phalanx, the even phalanx and the oblique phalanx¹

The transverse phalanx [*phalanx plagia*, φάλαγξ πλαγία] has its width much greater than its depth. The even phalanx [*phalanx orthia*, φάλαγξ ὀρθία] has the depth of each of the wings greater than its width.² Anything of the sort that has width greater than its depth is called ‘oblong’, while anything deeper than it is wide is called ‘right-lined’ or even. The phalanx is called oblique [*phalanx loxē*, φάλαγξ λοξή], or uneven-fronted, when one of the wings is advanced towards the enemy and commences the attack, while the other is held back, in reserve as it were, awaiting events.³

λ' Τί ἐστι παρεμβολή. Τί ἐστι πρόσταξις. Τί ἐστὶν ἔνταξις. Τί ἐστὶν ὑπόταξις

Παρεμβολή δέ ἐστιν, ὅταν προτεταγμένων τινῶν εἰς τὰ μεταξὺ διαστήματα ἐκ τῶν ἐπιτεταγμένων καθιστῶνται αὐτοῖς ἐπ' εὐθείας.

[πρόταξις λέγεται διὰ τὸ τοὺς ψιλοὺς παράγειν τῆς τῶν ὀπλιτῶν φάλαγγος. ὡς καὶ πρωτοστάτης ὁ λοχαγός.]^a

[τὸ δὲ ὀπισθεν αὐτοὺς εἶναι, ἐπίταξις λέγεται, ὡς ἐπίστασις, τὸ ὀπισθεν.]^b πρόσταξις δέ ἐστιν, ὅταν ἐξ ἐκατέρων τῶν μερῶν τῆς τάξεως ἢ ἐκ τοῦ ἐνὸς προστεθῇ τί μέρος [κατὰ κέρας]^c πρὸς τὴν αὐτὴν τῇ φάλαγγι ἐπιφάνειαν. [ἢ τοι αὕτη πρόενταξις τῆς θάλαγγος πρόσταξις καλεῖται.]^d

ἔνταξις δέ ἐστιν, ἐάν τις προαιρῇται τοὺς ψιλοὺς εἰς τὰ διαστήματα τῆς φάλαγγος [τάσσειν],^e ἄνδρα παρ' ἄνδρα.

ὑπόταξις δέ ἐστιν, ἐάν τις τοὺς ψιλοὺς ὑπὸ τὰ κέρατα τῆς φάλαγγος ὑποτάσῃ ἐπικαμπίου τάξιν [ἔχοντα],^f ὥστε [ὅλον τὸ]^g σχῆμα τριπυλοειδὲς εἶναι.

30. *Parembolē*, *prostaxis*, *entaxis* and *hypotaxis*¹

Parembolē [παρεμβολή] is the term employed when the men from the rearward ranks are inserted into the intervals between the men occupying the front ranks.²

Protaxis [πρόταξις] describes the positioning of the light-armed troops in front of the armed infantry who make up the phalanx. The repositioned light troops then assume the role of file-leaders, or *protostatae*.

Epitaxis [ἐπίταξις] is the reverse of the *protaxis* and means the positioning behind of those who would normally be at the front.

Prostaxis [πρόσταξις] is the word used to describe the positioning of troops to either wing or to both of them, with the original line of the front being preserved. The other name for the *prostaxis* deployment of the phalanx is *proentaxis* [πρόενταξις].

Entaxis [ἐνταξις] occurs when it is considered appropriate to insert the light armed infantry into the intervals between each man of the phalanx.³ (See [Plate 16](#).)

Hypotaxis [ὑπόταξις] refers to the positioning of the light-armed troops on the wings but deployed either slightly forward or back from the front of the phalanx, so that the whole formation becomes triple fronted. (See [Plate 17](#).)

λα' Πῶς ἐπὶ δόρυ περισπᾶται τὰ συντάγματα καὶ πῶς ἀποκαθίσταται, καὶ πῶς ὁμοίως ἐπ' ἀσπίδα

Ἐπόμενον δ' ἂν εἴη δηλῶσαι, πῶς τὰ [συντάγματα δεῖ]^a ἐπιστρέφειν, καὶ πῶς [ἀποκαθιστάναι]^b εἰς τὴν προϋπάρχουσαν τάξιν.

ἐπὶ δόρυ μὲν οὖν ὅταν ἐπιστρέφειν τὰ συντάγματα ἐθίζειν βουλώμεθα, παραγγέλλεται τὸν ἐπὶ τοῦ δεξιοῦ λόχον ἡσυχίαν ἔχειν, ἕκαστον δὲ [τὸν ἐν τοῖς λόχοις]^c ἐπὶ δόρυ κλῖναι, προσάγειν τε ἐπὶ τὸ δεξιόν, εἴτα εἰς ὀρθὸν ἀποδοῦναι, εἴτα [προάγειν]^d τὰ ὀπίσω ζυγά, καὶ ταύτης γενομένης τῆς πυκνώσεως ἐπὶ δόρυ ἐπιστρέφειν.

ὅταν δὲ τοῦτο γένηται καὶ ἀποκαταστήσῃσι πάλιν τὸ σύνταγμα [δέον]^e ἐπὶ τὴν ἐξ ἀρχῆς τάξιν [βουλώμεθα],^f ταῦτα παραγγέλλεται. [ἐπ']^g ἀσπίδα μεταβάλλεσθαι, τοῦτ' ἔστιν ἐπὶ τὸν ἐναντίον τόπον ἕκαστον νεύειν, εἴτα ἀναστρέφειν ὅλον τὸ σύνταγμα, τοῦτ' ἔστιν ὥσπερ πυκνωθὲν ἐπεστράφη καὶ εἰς τὰ δεξιὰ μέρη ἔνευσεν, οὕτως ὅλον μετατεθῆναι ἐπὶ τὸν τόπον, ἀφ' οὗ τὴν ἐπιστροφὴν ἐποιήσατο. εἴτα οἱ λοχαγοὶ ἡρεμείωσαν, οἱ δὲ λοιποὶ κατὰ ζυγά προαγέτωσαν. εἴτα μεταβαλλέσθωσαν, ὥστε νεύειν ἐφ' ἃ ἐξ ἀρχῆς ἔνευον. εἴτα ἐκάστου συντάγματος ὁ ἐπὶ τοῦ δεξιοῦ [λόχου]^h ἡρεμείτω, οὗτος γὰρ ἤδη τὴν ἰδίαν ἔχει τάξιν, οἱ δὲ λοιποὶ πάντες ἐπ' ἀσπίδα κλινέτωσαν καὶ [προαγέτωσαν]ⁱ [ἀποκαθιστάσθωσαν]^j

ἄνω, καὶ τὴν τάξιν, ἣν [προεῖχε],^k ἕκαστος ἀπέιληφεν.

ἐὰν δὲ ἐπ' ἀσπίδα βουλώμεθα ἐπιστρέφειν τὰ συντάγματα, παραγγέλλομεν ἑκάστου συντάγματος τὸν ἐπὶ τοῦ εὐωνύμου λόχον ἡρεμεῖν, τῶν λοιπῶν δ' ἕκαστον ἐπ' ἀσπίδα κλίνειν καὶ προσάγειν ἐπὶ τὸ εὐώνυμον, εἴτα εἰς ὀρθὸν ἀποδοῦναι, εἴτα προσάγειν τὰ ὀπίσω ζυγά, εἴτα ἐπ' ἀσπίδα ἐπιστρέφειν. καὶ γέγονε τὸ παραγγελθέν.

ἀποκαταστῆσαι δὲ ἐὰν βουλώμεθα, τὰ ὅμοια ποιήσομεν, [ἦ]ⁱ ὅτε ἐπὶ δόρυ ἐπιστρέψαντες καθιστάνομεν. πάλιν γὰρ ἕκαστος μεταβαλλέσθω ἐπὶ δόρυ, εἴτα τὸ σύνταγμα ἀναστρεψάτω, εἴτα οἱ λοχαγοὶ ἡρεμείτωσαν, [εἴτα μεταβαλλέσθωσαν, οἱ δὲ λοιποὶ κατὰ ζυγὰ προαγέτωσαν,]^m εἴτα ὁ ἐπὶ τοῦ εὐωνύμου λόχος ἡσυχίαν ἐχέτω ἥδη γὰρ ἕκαστος αὐτῶν εἰς ἣν προεῖχε τάξιν ἀποκατέστη, ὁ λοιπὸς ἐπὶ δόρυ κλίνας προαγέτω, ἕως [ἀποκατασταῖν εἰς τάξιντὰ]ⁿ διαστήματα. εἴτα εἰς ὀρθὸν ἀποδότη, καὶ πάντες ἐξουσι τὴν ἐξ ἀρχῆς τάξιν.

ἐὰν δὲ ἐπὶ δόρυ περισπᾶν βουλώμεθα τὰ συντάγματα, δύο ποιήσομεν τοῦ συντάγματος ἐπὶ τὸ αὐτὸ ἐπιστροφάς, καὶ συμβήσεται τοὺς λοχαγοὺς ἀπὸ τῆς εἰς τὸ ἔμπροσθεν νεύσεως εἰς τὸ ὀπισθεν ἐν τῇ μεταβάσει τῶν συνταγμάτων νεύειν. ἀποκαταστῆσαι δὲ ὅταν βουληθῶμεν τὰ συντάγματα, παραγγελοῦμεν ἔτι ἐπὶ δόρυ περισπᾶν τὸ σύνταγμα, τοῦτ' ἔστιν, ἄλλας δύο ἐπιστροφάς δώσομεν ἐπὶ [τὰ]^o αὐτὰ μέρη τῶ συντάγματι, καὶ [οὕτως]^p συμβήσεται τοὺς λοχαγοὺς ἔχειν νεύοντας ἐφ' ἃ ἐξ ἀρχῆς ἔνευον, πρὶν ὅλως περισπασμὸς γένηται. τούτων δὲ γενομένων παραγγελοῦμεν τοὺς λοχαγοὺς ἡρεμεῖν, τοὺς δὲ λοιποὺς μεταβάλλομένους [ἐνιέναι]^q ὀπίσω ζυγά, εἴτα πάλιν μεταβάλλεσθαι, καὶ ἑκάστου συντάγματος τὸν ἐπὶ τοῦ δεξιοῦ λόχον ἡρεμεῖν ἔξει γὰρ τὴν ἐξ ἀρχῆς ἀποκατάστασιν, τοὺς δὲ λοιποὺς ἐπ' ἀσπίδα κλίναντας προάγειν καὶ ἀποκαθιστάναι [εἰς]^r τὸ ἐξ ἀρχῆς διάστημα, εἴτα εἰς ὀρθὸν ἀποδοῦναι, καὶ οὕτως [ἔσται]^s εἰς τὴν ἐξ ἀρχῆς ἀποκατάστασιν τὰ συντάγματα [καταστήσονται].^t

ἐὰν δὲ ἐπ' ἀσπίδα βουλευθῶμεν περισπᾶν τὰ συντάγματα, τοῖς ἐναντίοις παραγγέλμασι χρησόμεθα, [τουτέστιν]u ἀντὶ τοῦ ἐπὶ δόρυ δις ἐπιστρέφειν ἐπ' ἀσπίδα [περισπασμὸν γένεσθαι, εἴτα δις]v ἐπ' ἀσπίδα περισπᾶσαντας ταῖς ὁμοίαις ἀγωγαῖς χρήσασθαι.

ἔστι δέ τις καὶ ἐκπερισπασμός, ὅταν τὸ σύνταγμα τρίς ἐπὶ τὸ αὐτὸ μέρος ἐπιστρέψῃ τις, [τουτέστιν]w ἐπὶ δόρυ ἢ ἐπ' ἀσπίδα. ποιεῖ δὲ ὁ [ἐπὶ δόρυ]x περισπασμὸς τὴν ὄψιν τῶν ὀπλιτῶν ἀπὸ τῶν ἔμπροσθεν νεύειν κατόπιν, ὁ δὲ [ἐπὶ δόρυ]y ἐκπερισπασμὸς ἀπὸ τῶν ἔμπροσθεν ἐπὶ τὰ εὐώνυμα [νεύειν],z ὁ δὲ ἐπ' ἀσπίδα ἐκπερισπασμὸς ἀπὸ τῶν ἔμπροσθεν ἐπὶ τὰ δεξιὰ νεύειν.

31. Wheeling to the left and right, and returning to the original position¹

The next matter in order is to examine how wheeling is performed and to point out the manner of returning to the first position.²

When troops are to be exercised in wheeling to the right, the file on the right hand side is ordered to keep its position. The other files are then ordered to face to the right and close up to the file that is standing fast, and then to face in their direction.³ The rear ranks are then ordered to close up and, assuming a compact order, the whole formation wheels to the right [i.e. **their** right].⁴ If, once this movement has been completed, it is required to return the formation to its first position, the necessary orders must be given for the men to turn to the left [i.e. **their** rear], that is, to 'about-face' so that the whole formation can wheel back again. Having closed up into a compact formation in the first instance, the formation now completely reverses the process so that the intended movement can be completed and the original position can be adopted.⁵ The file-leaders [i.e. those who had been the file-leaders in the original position but who, through the various motions of the formation, now made up the back rank] stand fast while the rest adopt an open-order [i.e. by advancing forward to their correct intervals while the rear rank holds firm]. The files should then turn to face the direction in which they first stood.⁶

If the command to wheel to the left is given, the file on the left flank stands fast while the others turn to face to the left [i.e. **their**

left], close up, and then all of the men face to the front. The rear ranks then close up [creating a compact order] and the whole formation wheels to the left to complete the manoeuvre. (See [Plate 18.](#))

If it then becomes necessary to return the formation to its original position, a similar process is used as that which was outlined before for returning from a wheel to the right: everyone must about-face to look to the right [i.e. **their** rear], and the whole formation wheels to the rear [i.e. **their** right]. The file-leaders will then stand fast and will then about-face.⁷ The file on the left will then hold its position while the other files, turning to the right [i.e. **their** right], will march until they have regained the order in which they stood at the beginning. The whole formation will then turn to face the front.⁸

If the command is given to wheel the entire formation about-face to the right [*perispasmos*, περισπασμός], two successive wheelings in that direction must be undertaken.⁹ Consequently, the file-leaders will face towards the rear, having originally faced towards the front. If the first position is to be resumed, then more wheelings to the right [i.e. **their** left] are made so that the file-leaders, at last, will face in the same direction as they had prior to the commencement of the manoeuvre. The file-leaders then stand fast and the rest of the ranks about-face and march to take up their ordinary intervals. The file on the right flank then stands fast, for it will be in its proper position.¹⁰ The other files then turn to the left [i.e. **their** right] and march until they have regained their original position. They then dress their lines and the formation stands as it first did.

If the formation is wheeled 180 degrees to the left, the commands are given opposite to those last described. That is, instead of two wheelings to the right, there must be two to the left. Then, to return to the first position, the formation will face twice to the left [i.e. **their** right] using the same movements.

There is a movement called the *ecperispasmos*

[ἐκπερισπασμός], which is when a formation wheels three times in the same direction, either to the right or to the left. Through the *perispasmos*, a formation, wheeling twice to their left or right, will face to the rear. However, making three wheels to their right through the *ecperispasmos*, a formation will face to the left and, through three wheelings to their left, will face to the right.

λβ' Πῶς ἐπὶ τὸ δεξιὸν κέρας ἢ
φάλαγξ πυκνοῦται καὶ πῶς
ἀποκαθίσταται. Πῶς ἐπὶ τὸ
εὐώνυμον κέρας πυκνοῦται ἢ
φάλαγξ καὶ πῶς ἀποκαθίσταται.
Πῶς ἐπὶ μέσῃν τὴν φάλαγγα
πύκνωσις γίνεται καὶ πῶς
ἀποκαθίσταται

Ἐὰν δὲ ἐπὶ τὸ δεξιὸν [μέρας]a τὴν φάλαγγα βουλώμεθα
πυκνῶσαι, παραγγελοῦμεν τὸν ἐπὶ τοῦ δεξιοῦ κέρατος λόχον
ἡρεμεῖν, τοὺς δὲ λοιποὺς ἐπὶ δόρυ κλίναντας προσάγειν ἐπὶ τὸ
δεξιόν, εἴτα εἰς ὀρθὸν ἀποδοῦναι, καὶ προσάγειν τὰ ὀπίσω ζυγά.
ἀποκαταστῆσαι δὲ ὅταν [βουλώμεθα],b παραγγελοῦμεν τοὺς
λοχαγοὺς ἡσυχίαν ἔχειν, τοὺς δὲ λοιποὺς μεταβαλλομένους
ἀνιέναι [τὰ]c ὀπίσω ζυγά, εἴτα πάλιν μεταβάλλεσθαι, εἴτα τὸν
ἐπὶ τοῦ δεξιοῦ κέρατος λόχον ἡσυχίαν ἄγειν, ἥδη γὰρ εἰς τὰ
δεξιὰ ἀποκατέστη, οἱ δὲ λοιποὶ ἐπ' ἀσπίδα κλίναντες
ἀκολουθεῖτωσαν τοῖς ἡγουμένοις καὶ τὰ ἐξ ἀρχῆς
[συντηρήματα διαστήσαντες]d εἰς ὀρθὸν ἀποδότωσαν. ἐὰν δὲ
ἐπὶ τὸ εὐώνυμον κέρας βουλευθῶμεν πυκνῶσαι τὴν φάλαγγα,
τοῖς ἐναντίοις παραγγέλμασι χρησόμεθα.

ἐὰν δὲ ἐπὶ μέσῃν τὴν φάλαγγα πυκνῶσαι βουλευθῶμεν,

παραγγελοῦμεν τὴν δεξιὰν διφραλαγγίαν ἐπ’ ἀσπίδα κλίνειν, τὴν δὲ εὐώνυμον ἐπὶ δόρυ. εἴτα προσαγέτωσαν ἐπὶ μέσῃν τὴν φάλαγγα, εἴτα πάντες εἰς ὀρθὸν ἀποδότησαν, καὶ προσαγέτωσαν [τὰ]^e ὀπίσω ζυγά.

ἀποκαταστήσαι δὲ ὅταν βουλώμεθα τὴν φάλαγγα εἰς τὴν ἐξ ἀρχῆς τάξιν, παραγγελοῦμεν μεταβάλλεσθαι καὶ προάγειν κατὰ ζυγά χωρὶς τοῦ πρώτου ζυγοῦ, εἴτα πάλιν πάντας μεταβάλλεσθαι, καὶ τὴν μὲν δεξιὰν διφραλαγγίαν ἐπὶ δόρυ κλίνειν, τὴν δὲ εὐώνυμον ἐπ’ ἀσπίδα, εἴτα ἀκολουθεῖν τοῖς ἡγουμένοις, μέχρις ἂν εἰς τὰ ἐξ ἀρχῆς [συνέλθωσι]^f διαστήματα, εἴτα εἰς ὀρθὸν ἀποδοῦναι.

ἐπὶ πασῶν μέντοι τῶν μεταβολῶν, ὅταν ἐκ [πυκνώσεων]^g γίνωνται, δεῖ [τὰ δόρατα ἄνω]^h ἔχειν πρὸς τὸ μὴ στραφέντος τοῦ ὀπλίτου ἐμποδῶν αὐτὰ γίνεσθαι. ταῖς δ’ αὐταῖς ἀγωγαῖς παιδεύσομεν καὶ τοὺς ψιλοὺς.

32. Closing the formation to the right, left and middle and returning to the original position¹

If the phalanx is to adopt a closer order by moving to the right, the extreme file on the right wing is to stand fast. The other files will then turn 'to the pike' [i.e. to **their** right].² They will then march to the right [to close the interval between the files], halt, and then turn to face the front. The rear ranks will then move forward to compress the intervals between the ranks. If it is required to return to the original order, then the file-leaders will stand fast and the rest will about-face to the rear and advance to create an open order interval between the ranks. They will then about-face to the front. The file on the right wing will then stand fast, as it is already in its proper position, and the rest will turn 'to the shield' [i.e. to **their** left]. They will then march to the left [i.e. **their** front] until they take up their original position. They then turn to face the front, as they were originally. If it is required to close up the formation to the left, then the reverse commands are used.

If the phalanx is to be closed towards the centre, the *diphalangarchia* on the right of the central point of the line [i.e. the *omphalmos*] is to face to the left, while the *diphalangarchia* on the left wing is to face to the right, and both will march upon the centre from either direction.³ Then, having completed the lateral closing of the files, all of the men will turn to face the front and the rear ranks will move forward to close the intervals between the ranks. If the original order of the centre is to be restored, the

compressed wings about-face to the rear and advance to take up the ground in open order. Then they about-face to the front. Then the *diphalangarchia* on the right wing turns 'to the pike' [i.e. to the right, which is also **their** right] and the *diphalangarchia* on the left turns 'to the shield' [i.e. to the left, which is also **their** left] and both advance until they resume their original positions. Finally, all men turn to face the front as they originally had been.

In all wheelings executed in close order, it is a requisite that the pikes should be held vertically so that they will not impede the movements of the soldier. The light-armed troops must be drilled in the same manner.

λγ' Ὅτι τὰ εἰρημένα παραγγέλματα ἀναγκαῖά ἐστι πρὸς τὰς αἰφνιδίους ἐφόδους πολεμίων

Αὗται μέντοι αἱ παραγγελίαι τῶν μεταβολῶν καὶ ἐπιστροφῶν καὶ περισπασμῶν καὶ [ἐκπερισπασμῶν καὶ]^a ἀποκαταστάσεων χρειώδεις εἰσὶ πρὸς τὰς αἰφνιδίους τῶν πολεμίων ἐπιφανείας, ἐκ δεξιῶν τῆς πορείας τῶν πολεμίων ἐπιφανέντων ἢ ἐξ εὐωνύμων ἢ ἔμπροσθεν [ἢ ὀπισθεν],^b ὁμοίως δὲ καὶ [τὸν ἐξελιγμόν].^c τὸν μὲν οὖν Μακεδονικὸν ἐξελιγμόν φασὶ Μακεδόνας εὐρεῖν, Λακεδαιμονίους δὲ τὸν Λακωνικόν, καὶ διὰ τοῦτο τῶν [ὀνομασιῶν τῶν]^d εἰρημένων ἕκαστον αὐτῶν τυχεῖν. ἱστορεῖται [μὲν]^e Φίλιππον τὸν αὐξήσαντα τῶν Μακεδόνων τὴν ἀρχὴν [καὶ]^f τοὺς Ἑλληνας μάχῃ νικήσαντα περὶ Χαιρώνειαν καὶ τὴν ἡγεμονίαν τῆς Ἑλλάδος λαβόντα, Ἀλέξανδρον [δὲ]^g τὸν υἱὸν αὐτοῦ [καὶ]^h τῆς Ἀσίας ὀλίγῳ χρόνῳ κρατήσαντα τὸν μὲν Μακεδονικὸν ἐξελιγμόν ὑπεριδεῖν, εἰ μὴ που [καὶ τοῦτον ἢ χρεῖα]ⁱ προσεβιάσατο, τῷ δὲ Λακωνικῷ [χρησάμενον]^j ἀμφοτέρους τῶν πολεμίων κατακρατῆσαι. ὁ μὲν γὰρ Μακεδονικὸς ἐξελιγμὸς προσπιπτόντων τῶν πολεμίων [ἐξαίφνης]^k ἐκ τῶν ὀπισθεν [εποιεῖτο]^l πολλὴν ταραχήν. τῶν [μὲν]^m ἀπὸ τοῦ οὐραγοῦ εἰς τὸν ὀπίσω τοῦ λοχαγοῦ τόπον ἐκπεριπορευομένων καὶ φυγῇ παραπλήσιόν τι ποιούντων θαρραλεωτέρους μὲν ποιεῖ τοὺς πολεμίους, [κατάπληξις]ⁿ δὲ καὶ [διωγμὸς τοῖς οὕτω]^o ἐξελίξασι παρὰ τῶν πολεμίων [ἀκολουθεῖ].^p ὁ δὲ Λακωνικὸς τὸ ἐναντίον τούτῳ παρέχει. ὀπισθεν γὰρ ἐπιφαινομένων τῶν

πολεμίων καὶ τῶν ἡγεμόνων σὺν τοῖς ἐπακολουθοῦσιν
ἐφορμώντων καὶ [ὑπαντώντων]q τοῖς πολεμίοις ἰσχυρὰ τοῖς
πολεμίοις [δειλία γίνεται].r

33. Concerning sudden movements of the army

The directions given here, outlining facing, wheeling, double-wheeling and returning to the first position, all have their respective uses: in case of sudden attacks by the enemy, on the march, and charging from the left, the right and from the front. The same holds true with regard to counter-marches. Of these, the Macedonians are said to have invented the one that is named after them, and the Spartans that which is called 'Lacedaemonian'. History informs us that Philip, who expanded the kingdom of Macedon and defeated the Greeks at Chaeronea and became the leader of a Greek confederacy, and similarly his son Alexander, who conquered Asia in a short space of time, undervalued the Macedonian Counter-march, unless compelled to use it by necessity, and that both of them defeated their enemies by using the Lacedaemonian Counter-march.¹ The Macedonian Counter-march, in the event of an attack from the rear, often causes great confusion for the *ouragoi*, retreating behind the file-leaders, as it were, and taking up a position there in their order, giving the appearance of flight, and this movement, consequently, encourages the enemy and renders him more confident, and correspondingly reduces the spirits of those who retire while giving vigour to the charge of the enemy. Conversely, the lacedaemonian Counter-march has the exact opposite effect for, when the enemy appears to the rear, the file-leaders and those that follow them, marching forward to repel the enemy, strike fear into their minds.²

λδ' Ὅτι τὰς δυνάμεις ἐθίζειν δεῖ τοῖς παραγγέλμασι χρῆσθαι ἢ διὰ σημείων ἢ διὰ φωνῆς ἢ διὰ σάλπιγγος

Δεῖ δὲ ἐθίζειν τὰς δυνάμεις τὰς [πεζικάς]^a καὶ τὰς ἱππικάς τὰ μὲν φωνῇ, τὰ δὲ διὰ σημείων ὁρατῶν, ἵνα [καθ']^b ἐκάστην ἐπιτηδειότητα τὸ προσήκον γένηται. ἔνια δὲ καὶ διὰ τῆς σάλπιγγος παραγγέλλεσθαι προσήκει οὕτως γὰρ πᾶσα [ἐπίταξις]^c ἐξυπηρετηθήσεται. σαφέστερα μὲν οὖν ἐστὶ τὰ διὰ τῆς φωνῆς μηνυόμενα, [ἐάν]^d γε μηδὲν ἐμπόδιον [αὐτῇ ἢ],^e ἀθορυβώτερα δὲ τὰ διὰ τῶν σημείων, ὅταν μηδὲ τούτοις τυγχάνῃ τι τὸ ἐπισκοτοῦν. τὰ τε [γὰρ]^f διὰ τῆς φωνῆς ἐνίοτε δυσεξάκουστα γίνεται [ἢ]^g διὰ ψόφον ὀπλων καὶ δυνάμεως ἱππικῆς [παριππασίαν καὶ χρεμετισμὸν]^h ἵππων καὶ θόρυβον σκευοφόρων καὶ τοῦ πλήθους παντὸς ἤχον, καὶ τὰ διὰ τῶν σημείων δὲ ἄπορα πολλαχῇ γίνεται διὰ τε παχύτητα ἀέρος καὶ κονιορτοῦ καὶ ὕδατα καὶ νιφετοὺς καὶ ἡλίου ἀνταύγειαν, ἔτι δὲ τόπους ἀνωμάλους καὶ καταδένδρους καὶ καμπὰς ἔχοντας. ἐνίοτε δὲ οὐκ ἔστιν εὐπορον πρὸς πᾶσαν χρεῖαν εὐρέσθαι σημεῖα τῶν καιρῶν καινὰ πολλακίς εὕρισκόντων, οἷς τις οὐ προσείθισται. οὐ μέντοι ἅμα πάντα συμπεσεῖν δύναται, ὥστε ἄδηλον εἶναι ἢ φωνῆς ἢ σημείων τὸ παράγγελμα.

34. The advantages and uses of commands given by signal, voice and trumpet¹

It is vital to accustom both infantry and cavalry to obey orders, whether communicated by voice or by visual signal, so that whatever is required can be executed with precision. It is necessary to announce some orders by the sound of a trumpet. Thus every command can be obeyed effectively. Orders given by voice are the most explicit. However, those given by signal are less likely to be missed so long as nothing renders them indistinguishable. Orders given by word of mouth are sometimes heard with difficulty because of the clash of arms, the trampling and neighing of horses, the din of those administering to the baggage train, and the combined clamour of all. Similarly, signals become uncertain under various circumstances, such as when the air is thick when dust is raised, or when rain or snow falls. Added to these, unfavourable ground, coverings of trees or sudden turnings of the formation may impede the sight of the signal. As such, it is no easy task to invent signals that are applicable to all situations, as many new circumstances may occur that a commander may never before have encountered. Yet all of these inconveniences should not cause distress as it is altogether impossible to convey all orders either by voice or by signal.

λε' Περὶ πορειῶν καὶ ἐπαγωγῆς καὶ παραγωγῆς καὶ πῶς κοιλέμβολον

[Περὶ πορειῶν μέλλοντες λέγειν τοσοῦτον προερούμεν, ὅτι ἡ μὲν ἐν ταῖς πορείαις]a ἔστιν ὀρθία ἐπαγωγή, ἡ δὲ παραγωγή ἢ ἐν δεξιᾷ, ἢ ἐν εὐωνύμῳ, καὶ ἐν μονοπλευρῷ, ἢ διπλευρῷ, ἢ τῷ τετραπλευρῷ τάγματι βαδίζεται.

μονοπλευρῷ μὲν, ὅταν ἓνα φοβῇται, διπλευρῷ δὲ, ὅταν δύο. τριπλευρῷ δὲ, ὅστιν τρία. τετραπλευρῷ δὲ ὅταν πάντοθεν οἱ πολέμοι ἐπιθέσθαι θέλωσι. καὶ διὰ τοῦτο γίνονται αἱ πορεῖαι ποτὲ μὲν μονοφαλαγγία, ποτὲ δὲ διφαλαγγία, ἢ τριφαλαγγία, ἢ τετραφαλαγγία.

καὶ ἐπαγωγή ὀρθία μὲν ἐστίν, ὅταν τάγμα τάγματι ἐπακολουθῇ. οἷον ξεναγίας προηγουμένης, αἱ λοιπαὶ ξεναγαὶ ἐπώνται, ἢ τετραρχίας προπορευομένης, αἱ λοιπαὶ ἐπακολουθῶσι κατὰ τάγμα. καλεῖται δὲ οὕτως, ὅταν ἐπὶ κέρας πορεύηται πολλαπλάσιον ἔχουσα τὸ βάθος τοῦ μήκος, ἔχει δὲ τὸ τάγμα δυο λόχους ἀπὸ δέκα ἀνδρῶν.

πρὸς ταύτην ἀντιτάττεται ὁ κοιλέμβολος. γίνεται δὲ οὕτως ὅταν ἡ ἀντίστομος διφαλαγγία τὰ μὲν ἡγούμενα κέρατα διαστήσῃ, τὰ δὲ ἐπόμενα συνάψῃ, ἐν σχήματι τοῦ υ στιχείου, ὡς διδάσκει ἡμᾶς ἡ καταγραφὴ ἔχουσα τοὺς μὲν πρῶτους διεστῶτας, τοὺς δὲ πελευταίους συνημμένους. τῆς γὰρ ὀρθίας ἐπαγωγῆς κατὰ τοὺς μέσον τῶν ἐχθρῶν φερομένης, ἐτοιμῶς ἔχουσιν οἱ τοῦ κοιλεμβόλου διαλύσαντες τὴν ἔνωσην κενῶσαι μὲν τὴν προσβολὴν τῆς πρώτης δυνάμεως, χωρῆσαι δὲ κατὰ τῶν πλαγίων μερῶν τῆς ὀρθίας ἐπαγωγῆς.

οὐ μὲν ἀλλὰ καὶ τριφαλαγγία ἀντιτάττεται τῷ κολεμβόλῳ,

τῆς μὲν μιᾶς φάλαγγος μαχομένης τῷ ἐνὶ κέρατι. τῆς δὲ
δευτέρας, τῷ ἄλλῳ, τῆς δὲ μέσης, καὶ τρίτης ἀναμενούσης τὴν
προσβολήν.

35. Marching, induction and deduction, and the *koelembolus* formation¹

We shall now proceed to examine the various orders of march. One form of march is called *epagogē* [ἐπαγωγή], or ‘right induction’. There is also another order of march called *paragogē* [παράγωγή], or ‘deduction’, marching with the flank leading on either the left or right, and this may be performed in either a single [*monopleura*, μονοπλευρά], double [*dipleura*, διπλευρά], triple [*tripleura*, τριπλευρά] or quadrilateral [*tetrapleura*, τετραπλευρά] column.²

The single column is used when one flank is threatened by the enemy; the double column when an attack is expected from both sides; the triple column is adopted to meet a demonstration of the enemy from three fronts; and the quadrilateral form of march is resorted to when the enemy shows himself on every side. On this account, marches are conducted in single phalanx [*monophalaggia*, μονοφαλαγγία], double phalanx [*diphalaggia*, διφαλαγγία], triple phalanx [*triphalaggia*, τριφαλαγγία] or quadruple phalanx [*tetraphalaggia*, τετραφαλαγγία].

The correct form of the *epagogē* is when the divisions follow each other in order (e.g. if a *xenagia* leads, then the others follow, or if a *tetrarchia* leads, the remaining *tetrarchiae* follow, unit after unit). It is properly known as this when the phalanx marches with the flank leading, having under those circumstances a depth much greater than its width. The line in this form contains two files with

each containing ten men.³

The deployment used to oppose such a formation is called the *koelembolus* [κοιλέμβολος] or ‘hollow wedge’. This is formed when the *antistomos* double phalanx, increasing the width of the ‘mouth’ in the centre of the line, separates the leading wings and closes the rear in the shape of the letter V (as the figure shows), so that one wing of the formation is separated and the other is joined.⁴ (See [Plate 19](#).) For whereas the *epagogē*, or right induction, is directed at the centre of an opposing formation, the *koelembolus*, by opening the frontage between the leading units, renders the impact of the *epagogē* powerless and altogether harmless, while able to receive the front of the *epagogē* and hit it in the flanks.

The *triphalaggia* is used to oppose the *koelembolus*, or ‘hollow wedge’ (sometimes also called the ‘shears’), when one column charges one wing of the *koelembolus*, the second charges the other wing, and the third column in the centre awaits the results of the charge.

λς' Τί ἐστι παραγωγή

[Παραγωγή δὲ, ὅταν ἡ φάλαγξ τοὺς ἡγεμόνας, ἥτοι τοὺς λοχαγούς, ἢ ἐν δεξιῶν ἔχη παράγοντας, ὃ καλεῖται δεξιὰ παραγωγή, ἢ ἐξ εὐωνήμων, ὃ λέγεται εὐώνυμος παραγωγή οὐκ ἐτι κατὰ λόχους, ἀλλὰ κατὰ ζυγοὺς ἐπὶ κέρας πορευομένους. ἢ γὰρ ἐν διπλεύρῳ, [ἢ τριπλεύρῳ],^a ἢ καὶ ἐν τετραπλεύρῳ τὰς φάλαγγας ποιησαμένους, ὅθεν ἂν καὶ ἐξ ὁπόσων μερῶν τὸ πολέμιον ὑποττεύηται βαδιεῖται. ἀμφοτερά δὲ ἐνπλαγίων τὴν πρώτην προσβολὴν ποιούμεναι τὸ μὲν μῆκος διπλάσιον ἐποίησαν του βάθοις. δέκα μὲν γὰρ ἔχει τὸ στόμα, τρεῖς δὲ τὸ βάθος. τοῦτο δὲ τὸ τῆς μάχης ἐστὶ σχῆμα. διὰ τὸ ἐθίζεσθαι τὸν στρατιώτην, μὴ μόνον ἐπ' εὐθείας, ἀλλὰ καὶ τὰς ἐνπλαγίους μεμελετημένως δέχεσθαι προσβολάς.]^b

36. *Paragogē* or ‘deduction’

Paragogē [παραγωγή] takes place when the phalanx marches with the flank leading. If the file-leaders are on the right, this is known as a deduction by the right. (See [Plate 20](#).) If the file-leaders are on the left, this is known as a deduction by the left. In either case, the phalanx advances, not by file, but by rank. It is formed, and advances, in a double, triple or quadrilateral form, so as to act against whatever direction, and in whatever way, an enemy shall commence an attack.¹ Each wing, marching by deduction and charging with its flanks, has a width at least double its depth, for example ten across the front and a depth of three.² This order of battle was devised to accustom the soldier not only to receive an attack from the front, but from the flank also.

λζ' Τί ἐστι φάλαγξ ἀντίστομος

[Αντίστομος φάλαγξ λέγεται γὰρ οὕτως διὰ τὸ δύο στόματα ἔχειν. στόμα γὰρ λέγονται οἱ πρῶτι ἐπὶ τοὺς πολεμίους πορευόμενοι. ἐπεὶ οὖν ἐν τούτῳ τῷ σχήματι οἱ μὲν μέσσι ἀντίνωτοι εἰσὶν. οἱ δὲ ἐν ταῖς ἀρχαῖς προσβάλλουσι τοῖς πολεμίοις, ὥς τε τοὺς μὲν εἶναι ἐπιστάτας τοὺς δὲ οὐραγούς. διὰ τοῦτο ταύτην ἔσχε τὴν ὀνομασίαν.

ἔστι δὲ χρησιμωτάτη πεζοῖς, ὅταν πρὸς πολέμους μάχωνται πολλὴν τὴν ἱππικὴν παράταξιν ἔχοντας καὶ κατελαύνειν δυναμένους. τάττεται δὲ τὸ τριούτον σχῆμα μάλιστα πρὸς τοὺς περὶ τὸν Ἰστρον βαρβάρους, οὓς καὶ ἀμφίππους ἔλεγον, ὥς εἰθισμένους μεταβαίνειν ἀπὸ ἄλλων ἵππων εἰς ἄλλους.

τὸ δὲ ἀντιπαραταττόμενον ἱππικὸν τάγμα τετράγωνον ἔχον σχῆμα πρὸς τὴν χρεῖαν ἐμερίαθη εἰς δύο τάξεις ἑτερομήκεις. ἑτερομήκεις δὲ εἰσὶν, αἱ τὸ στόμα τοῦ βάρους ἔχουσαι διπλάσιον. ἐκάτερα δὲ αὐτῶν πρὸς τὰς τῶν πεζῶν διαιρέσεις ἀντιπαρατάττονται.]^a

37. The *antistomos* formation¹

The *antistomos* [ἀντίστομος] phalanx is so called because it has two ‘mouths’ or fronts. The rank that advances against the enemy is called the ‘mouth’ or front of the phalanx. As the men in the middle are placed back to back, while those on the front and rear turn to face the enemy, the phalanx hence takes the name that has been given here.² (See [Plate 21](#).)

This form of battle-line is of very great use to infantry when attacked by an enemy that is strong in cavalry. It is also of very great use in battles with the barbarians who inhabit the shores of the Danube, the Amphippi, so-called because they use two horses, vaulting from one to the other.

When cavalry charge against infantry drawn up in this way, the squadron adopts a quadrilateral form made up of two oblongs with their front twice as long as their depth. These are used to attack both sides of the *antistomos* phalanx at once.

λη' Τί ἐστι φάλαγξ ἀμφίστομος

[Ἀμφίστομος]^a φάλαγξ ὁμοία καὶ αὐτῇ τῇ ἀντιστόμῳ [ἐνηλλαγμένου του σχήματος,]^b ὥστε πρὸς τὸ εἶδος τῶν ἱππικῶν ἐπίδρομον ἐθίζεσθαι. ἁρμοζει δὲ καὶ ἐπὶ τούτου τοῦ σχήματος, πάντα τὰ ἐπὶ τῆς προτόρας φάλαγγος εἰρημένα πεζικῆς τε, καὶ ἱππικῆς. διαφέρει δὲ κατὰ ταῦτο τῆς ἀντιστομου, ὅτι ἡ μὲν ἀντιστομος ἐξ ἄκρων ἔχει τὰς μάχας. ἡ δὲ ἀμφίστομος ἐν πλαγίων. καὶ οἱ ἐν ταύτῃ τῇ τάξει, καὶ οἱ ἐν τῇ πρὸ ταύτης τεταγμένοι μεγάλοις δόρασι μάχονται, ὡς Ἀλανοὶ, καὶ Σαυρομάται. ἔχει δὲ τοὺς ἡμίσεις τῶν ἐν τοῖς λόχοις ὀπλιτῶν ἔμπροσθεν, τοὺς δὲ ἐτέρους ἀπεστραμμένους εἰς τουπίσω, ὡς ἀντινώτους ἀλλήλας γίνεσθαι. ἐν αὐτῇ δὲ δύο στόματα, ἔμπροσθέν τε ἐν οἷς οἱ λοξανοὶ, καὶ ὀπισθεν ἐν οἷς οἱ οὐρανοί. οὐ μὴν ἀλλὰ καὶ εἰς διφάλαγγίαν διαιρουμένη τὸ μὲν ἔμπροσθεν στόμα διὰ τῆς μιᾶς ποιεῖται φάλαγγος, τὸ δὲ ὀπισθεν διὰ τῆς ἐτοράς.

38. The *amphistomos* formation

The *amphistomos* [ἀμφίστομος] phalanx resembles that mentioned in the last chapter, and is adopted to resist various charges of cavalry. Everything outlined with regard to the *antistomos* phalanx is applicable to the *amphistomos* formation in terms of both the infantry and the cavalry. Where they differ is that, in the *antistomos* formation, the enemy charge is repelled by the front and rear of the formation. However, in the *amphistomos* formation, the charge is met by the flanks. (See [Plate 22](#).) in either case, the soldiers use long pikes like the Alani or the Sauromatae. The *antistomos* formation throws half the files to face the front and the other half to face the rear, with the men standing back-to-back.¹ it has two fronts, one made up of file-leaders and the other of *ouragoi*.² A phalanx divided in two in this manner forms one front with one *diphalangarchia* and the other front with the other *diphalangarchia*.

λθ' Τί ἐστι διφραλαγγία ἀντίστομος

[Αντίστομις]^a διφραλαγγία, ἥτις τοὺς ἡγεμόνας οὐκ ἐτι ἐντὸς ἐν παραγωγιάς, ἀλλ' ἐντὸς ἔχει ἀπ' ἐναντίας ἀλλήλων παρατεταγμένους, τοὺς δὲ οὐραγοὺς ἐντὸς τοὺς μὲν ἐν δεξιᾷ παραγωγῇ, τοὺς δὲ ἐν εὐωνύμῳ, γίνεται δὲ τὸ σχῆμα τοῦτο, ὅταν ἱππικὴ προσβολὴ ἐμβολοειδῆς ᾖ.

τοὺ γὰρ ἐμβόλου εἰς ὄξυ λήγοντος, καὶ ἔχοντος ἀκολουθοῦντας ἐνπλαγίου τοὺς ἐγεμόνας, καὶ διατεμεῖν προθυμουμένους κατὰ τοῦ μετώπου τὴν πεζικτὴν τάξιν, προορῶντες οἱ τῶν πεζῶν ἡγεμονες ἐν τῷ μέσῳ ἴσταναι. ἢ κωλύσαι ὀφείλοντες αὐτῶν τὴν ἔισοδον, ἢ ποιῆσαι αὐτοὺς ἀπράκτους παρελθεῖν.

οἱ μὲν γὰρ ἐν τοῖς ἐμβόλοις ὁρμῶσιν, ἐπ' ἐλπίδι τοῦ καταγωνίσασθαι τὸ μέσον πλῆθος, καὶ τάραχον ἐμποιῆσαι τῷ τάγματι. οἱ δὲ τῶν πεζῶν στρατηγοὶ νοοῦντες τὴν ὁρμὴν τοῦ σχήματος ἐνείνου τοίχους ἐκατέρωθεν μιμησάμενοι, καὶ μικρὸν ἑαυτοὺς διαστήσαντες, καὶ συνεύοντες κατὰ τοῦ μέσου κενὴν αὐτοῖς διδόασιν τὴν παράδον.

τὸ δὲ τοιοῦτον ἱππικὸν τάγμα παρὰ τοῖς τακτικοῖς ἐμβολος καλεῖται, ὃ ἐξεῦρε Φίλιππος ὁ τῶν Μακεδόνων βασιλεὺς τοῦ ἀνδρειοτάτους προτάξας, ἵνα δι' αὐτῶν συνειργῶνται καὶ οἱ ἀσθενέστεροι. ὃν τρόπον ἐπὶ τῆς λόγχης ἢ ἐπὶ τοῦ ξίφους ὁρῶμεν, τῷ κατὰ ἄκρα ἐστομωμένῳ, καὶ εὐκόλως τέμνοντα δι' ὀξύτητα συνεῖοιόντα καὶ τὸν μέσον ἀργὸν σίδηρον.

39. The *antistomos diphalangarchia* formation¹

The form of battle-line that is called an *antistomos diphalangarchia* is that which, by *paragogē*, places the file-leaders not on the external line, but on the inside of the formation, next to each other as it were, with one unit on the right and the other on the left.² (See [Plate 23](#).)

This formation is adopted when enemy cavalry charge in a wedge. The wedge, having its acute angle as the leading point, and with its file-leaders following on its flanks, endeavours to break the front of the phalanx. However, the file-leaders of the infantry, aware of the intention of the cavalry, place themselves in the centre for the purpose of resisting the charge or of allowing the wedge to pass between the wings of the formation without receiving its impact.

The objective of the squadron formed into the wedge is to charge into the midst of the column and to defeat it. However, the leaders of the infantry, observing the point against which the charge will be made, open the line and, standing like a wall on each side, turn inwards and leave only an open space for the wedge to pass through.

A body of cavalry in this formation is called a wedge by tacticians. It was invented by Philip, King of the Macedonians, who made his bravest men commanders of the wedge so that the others might be better defended and covered and so that the formation might penetrate the phalanx more easily, just in the same way that the point of a spear or sword makes way for the

duller metal that forms the later part of the weapon.[3](#)

μ' Τί ἐστι διφαλαγγία περίστομος

[Ταύτης αἱ φάλαγγες κατὰ παραγωγὴν ἐπὶ κέρως πορευόμεναι, ἡ μὲν ἐν δεξιᾷ λοξὴ παραγωγή ἔχει τοὺς ἡγεμόνος, ἡ δὲ ἐν εὐωνύμῳ λοξὴ τοὺς οὐραγοὺς ἔνδοθεν ἔχουσα. δείκνυσι τὸ σχῆμα τῆς παρατάξεως τὰς ὁρμὰς τῶν πολεμούντων, ἐπειδὴ ἡ προσβάλλουσα τάξις πάλαι τετράγωνος οὔσα ἐμερισεν ἑαυτῇν εἰς δύο λοξὰ κέρατα τότε δεξιὸν, καὶ τὸ εὐώνυμον, κυκλῶσαι θέλουσα τῇν ἀνθισταμένην ἐν τετραγώνῳ τάξιν, διὰ τοῦτο οἱ μέλλοντες κυκλοῦσθαι εἰς δύο φάλαγγας κινουμένας μετεσχημάτισαν ἑαυτοὺς, καὶ οἱ μὲν αὐτῶν πρὸς τὸ εὐώνυμον ἐβάρησαν κέρας, οἱ δὲ πρὸς τὸ δεξιὸν μετεστράφησαν, ὅθεν καὶ περίστομος ἐκλήθη ἀμφοτέρωθεν ἔχουσα πρὸς τοὺς πολεμίους στόμα νενευκός.][a](#)

40. The *peristomos diphalangarchia* formation

The *peristomos diphalangarchia* [διφαλαγγία περίστομος] is a form of battle-line when the formation marches in deduction by flank, the unit in oblique deduction on the right having the file-leaders in the outermost file, while the unit on the left has the *ouragoi* on the inside.¹ The figure shows this order of battle. (See [Plate 24](#).) The phalanx, in a tetragonal formation and having commenced a charge, opens itself obliquely by wings to the left and right, with a view to surround an opposing square that, wary of the consequences, must redeploy into two movable columns, which are then directed against the left and right wings. Hence the term *peristomos*, as the formation has an oblique front ready to meet the enemy on every side.

μα' Τί ἐστι φάλαγξ ὁμοιόστομος πῶς πλινθίον

[Οὕτω καλεῖται αὕτη, ὅτι λόχου τελείου κινουμένου κατ' αὐτῶν, τουτέστιν ἀνδρῶν ἐκκαίδεκα ὀπισθεν ὁμοίως λόχος αὐτῇ ἔπεται, διὸ καὶ ὁμοιόστομος κέκληται, ὅτι καὶ ἡ ἀκολουθοῦντες αὐτοῖς ἐν ὁμοίῳ σχήματι ἔπονται. ἀντίκειται αὕτη τῷ πλινθίῳ. λέγεται δὲ πλινθίον τάγμα ἰσόπλευρον, καὶ τῷ σχήματι, καὶ τῷ ἀριμῷ. σχήματι μὲν, ὅτι πανταχόθεν ἴσα ἔχει τὰ διαστήματα. ἀριθμῷ δὲ, ὅτι ὅσους ἔχει τὸ μῆκος, τοσούτους καὶ τὸ βάθος, ἐν δὲ τῷ τοιούτῳ [τάγματι]^a ἐν τῶν τεσσάρων πλευρῶν ὀπλῖται παρατάττονται, οὔτε τοξότου οὔτε σφενδοίτου τοῖς πλευροῖς συγκάμνοντος. ἔστι δὲ τοῦτο τὸ πλινθίον ἐν δύο διμοιριῶν. τὸ γὰρ ἥμιου τοῦ λόχου διμορία καλεῖται, ὀφείλοντος γὰρ τοῦ λόχου ἔχειν ἐκκαίδεκα, ὀκτὼ ἄνδρας ἔχει ἢ διμορία. ὅταν οὖν αἱ φάλαγγες παραπορευόμεναι ἀλλήλαις, ἢ ἐν δεξιᾷ παραγωγῇ ἔχωσιν ἀμφοτέραι τοῦς ἡγεμονας, ἢ ἐν εὐωνύμῳ, τότε λέγεται ὁμοιόστομος διφαλαγγία.]^b

41. The *homoistomos* formation and the *plinthium* formation

The *homoistomos* [ὁμοιόστομος] phalanx is that in which a whole file (i.e. sixteen men) marches with another file following behind it, and takes the name *homoistomos* because those who march behind move in the same manner as those who lead.¹ (See [Plate 25](#).) Against this order of battle, the *plinthium* is generally employed. The *plinthium* [πλινθίον] is a perfect square formation, both in form and in number: in form, because each side occupies an equal space, and in number, because it has as many men in its width as it does in its depth. Within this formation, the heavily armed are employed alone, without the incorporation of either archers or slingers.² The *plinthium* is made up of two *dimoiriae*, which is the name for half a file, so that, when the file consists of sixteen men, the *dimoiria* naturally consists of eight men.³ When, therefore, the larger divisions of the phalanx, marching side by side, have their file-leaders in a deduction to the right or left flank, this is called the *diphalangia homoistomos*.

μβ' Τί ἐστι φάλαγξ ἐτερόστομος

[Ἡ τις κατ' ἐπαγωγὴν πορευομένη τοῦ μὲν ἡγουμένου τάγματος τοῦς ἡγεμόνας ἔχει, ὡς εἰκὸς ἐν δεξιᾷ παραγωγῇ, τοῦ δὲ ἐπομένου, ἐν εὐωνύμῳ. ὡς πορεύεσθαι τὰ συντάγματα τὰ ἐναλλάξ, τὸ μὲν ἔχον ἐνθατερῶ μέρει τοὺς ἡγεμόνας, τὸ δὲ ἐν τῷ ἄλλῳ, καὶ ὁμοίως τὰ λοιπά.][a](#)

42. The heterostomos formation

The *heterostomos* [ἑτερόστομος] phalanx is a formation that, marching by deduction, has the file-leaders of the leading unit on the right-hand side, and those of the next unit on the left-hand side, following each other alternately, so that the former has its leaders on one hand, and the latter has them on the other, to the end of the phalanx. (See [Plate 26](#).)

μγ' Περὶ τῶν ῥομβοειδῶν ἱππέων. Τί ἐστὶ φάλαγξ μηνοειδής

[Ταύτην πρῶτος Ἰλέων εὗρεν ὁ Θεσσαλός, ὃθεν καὶ ἴλη ἐκ τοῦ ὀνόματος αὐτοῦ κέκληται. καὶ πρὸς αὐτὸ τὸ σχῆμα, Θεσσαλοὺς πάντας ἐγυμνασεν. ἐστὶ δὲ χρήσιμον, ἐπειδὴ [καθ']^a ἕκαστιν γωγίαν ἔχει στρατηγὸν τεταγμένον πρῶτον μὲν τὸν ἱλαρχην, τελευταῖον δὲ τὸν οὐραγὸν, ἐκατέρωθεν δὲ τοὺς πλαγιοφύλακας.

ἀντιμάχεται δὲ πρὸς ταύτην ἡ μηνοειδὴς τὰ κέρατα ἔχουσα προπορευόμενα, καὶ ἐν αὐτοῖς τοὺς ἡγεμόνας τὸ μέσον κοιλαίνουσα, πρὸς τὸ κυκλῶσαι τὴν ἱππικὴν δύναμιν παρασκευασμένην. ὃθεν οἱ ἱππεῖς κατὰ τὸ τῶν [Ταραντίνων ἀκροβολισμῶν]^b σχῆμα πόρρωθεν ἀκοντίζουσι τὴν κυκλικὴν πορείαν αὐτῶν ἀναστέλλοντες. Τάρας γὰρ πόλις τῆς Σιχελίας, ἧς ὁ στρατιώτης ἀκροβολιστὴς κέκληται, διὰ τὸ ἵππων μικρὰ πέμπειν ἀκόντια καὶ μετέρχεσθαι συμπληγάδον.]^c

43. The cavalry rhombus and the half-moon infantry formation

The cavalry squadron in the shape of a rhombus was invented by Ileon the Thessalian and was called an *ilē* [ἰλή] after his name.¹ He trained all of the Thessalians in this kind of formation. It has its uses, particularly as it has an officer at each corner, with the *ilarch* leading, the *ouragos* closing the troop, and one of the two flank guards posted on each side.²

Against an attack by cavalry arranged in a rhombus, infantry should adopt the formation called the *menooides* [μηνοειδής], or crescent, with its wings extended forward and its centre embowed, or hollowed, for the purpose of surrounding the attacking rhombus formation. (See [Plate 27](#).) To counter this, charging cavalry will regularly cast missiles in the manner of the Tarantine ‘darters’, to attempt to throw the semi-circular arrangement of the infantry into disorder.³ Tarentum is a city of Italy⁴ where the cavalry use missiles, first throwing small javelins and then closing for *mêlée* combat.

μδ' Τί ἐστι ἑτερομηκης. Τί ἐστι φάλαγξ πλαγία

[Ἦτις ἔχει διπλάσιον τὸ βάθος τοῦ μήκους. ἔστι δὲ ἀναγκαία κατὰ πλείονας τρόπους. καὶ γὰρ ἀπατῆσου πολεμίους ὀλίγοι εἰσιν οἱ ἐν αὐτῇ διὰ τὸ μὴ κατέχειν πλάτος. καὶ διακόψαι παρατεταγμένως πολεμίαν δύναμιν, εὐκόλως δύναται τῇ πυκνώσει, καὶ τῇ ῥώμῃ τοῦ κατατάγματος, καὶ διὰ στενῆς δὲ χώρας ἱκανὴ παρελθεῖν ἀνεπαισθήτως.

ἀντίκειται δὲ αὐτῇ πεζικὴ δύναμις, ἡ καλεῖται πλαγία φάλαγξ, μηκύνει γὰρ ἑαυτὴν εἰς πλάθος, ἵνα κἂν διακόπτεται, ὀλίγον ᾗ τὸ βάθος τὸ διακοπτόμενον, καὶ ἡ τῶν ἱππέων τόλμα μὴ εἰς [ὄχλον, ἀλλ' εἰς ἀέρα συντόμως][a](#) ἐνφερῆται. διὰ τοῦτο γὰρ καὶ πολλαπλάσιον ἔχει τὸ βάθος τοῦ μήκους.][b](#)

44. The *heteromekes* cavalry formation and the transverse infantry phalanx

A squadron of cavalry forming an oblong square, with a depth double that of its width, is known as a *heteromekes* [ἑτερομηκης] formation. Such a formation is useful in many situations. It can be adopted to deceive an enemy by the narrowness of its frontage, and to break his line through the weight and density of its configuration. It may also be easily led through defiles without the size of the army being easily perceived.

The infantry formation best suited to oppose this is the transverse phalanx [*phalanx plagia*, φάλαγξ πλαγία], or oblong formation.¹ Although this formation is easily pierced by the opposing cavalry, its depth is so small that a violent charge by cavalry is hardly felt by the majority of the infantry, but the impetus is mainly wasted on empty space because, being extended laterally, the infantry formation has only a small dimension from front to rear.

με' Περὶ τῶν ῥομβοειδῶν ἱππέων.

Τί ἐστὶ ἐπικάμπιος ἐμπροσθία

[Περὶ τούτης οὐδὲν πλέον ἔστιν εἰπεῖν, ἢ ὅτι στοιχεῖ μὲν, οὐ ζυγεῖ δέ. τὸ γὰρ χρειῶδες τοῦ σχήματος προλαβόντες εἰρήκαμεν, ὅτι εὖρε μὲν αὐτὴν Ἰλέων Θεσσαλὸς, ἐπήσκησε δὲ αὐτὴν Ἰάσων ὁ Μηδέας ἀνὴρ, ἀναγκαία δὲ ἐστὶν, ἐν τῶν τεσσάρων ζυγῶν πεφυλαγμένη, ἐν τοῦ λοχαγοῦ, ἐν τοῦ οὐραγοῦ, καὶ τῶν πλαγιοφυλάκων. τετακται δὲ ἡ ἵλη αὕτη ἐξ ἱπποτοξοτῶν, ὡς Ἀρμενίοις καὶ Παρθυαίοις ἦν ἔθος.

ἀντίκειται δὲ αὐτῇ ἡ τῶν πεζῶν, ἢ καλεῖται μὲν ἐπικάμπιος ἐμπροσθία, παρὰ τὸ κάμπιν μιμεῖσθαι τὴν περιαγωγὴν αὐτῆς.

ὁρᾷ δὲ πρὸς ἀπάτην τῶν ἱπποτοξοτῶν, ἵνα ἡ ὁραθέντας αὐτοὺς, καὶ κατελάσαντας τοῦ κενώματος μεσολαβήσωσιν, ἢ ἵνα τοῖς κέρασι ταραξάντες αὐτοὺς καὶ καταλύσαντες αὐτῶν τὴν προσβολὴν διὰ τῶν μέσων σημαίων ὄντων ἐπιθέμενοι πριγέμονται.][a](#)

45. The cavalry rhombus and the epicampios emprosthia infantry formation

It is not necessary to say more on the rhombus formation that has files but does not have ranks.¹ Its use and configuration has already been outlined and it has been shown that it was invented by Ileon the Thessalian and that Jason, the lover of Medea, improved upon it.² The formation has its uses, when necessity demands, and it is well guarded at its four corners by the *ilarch*, the *ouragos* and the two flank guards. It is generally composed of mounted archers in the Armenian and Parthian manner.

The formation of infantry adopted to oppose the rhombus is called the *epicampios emprosthia* [ἐπικάμπιος ἐμπροσθία] or the ‘formation with projecting wings’. This formation is so named because it is hollowed, or embowed, in the front.³

The purpose of this infantry formation is to lead the horse archers into a trap by either receiving them, on their first charge, into the hollow and then surrounding them, or by attacking them on the flanks with the wings, thus breaking the force of any charge, with the advanced columns on the wings overcoming the cavalry while they also fall in the centre.⁴ (See [Plate 28](#).)

μς' Τί ἐστι ἐπικάμπιος ὀπισθία καὶ τί φάλαγξ κυρτή

[Καί αὕτη μεμηχάνται πρὸς δόλον ἀνοίξασα γὰρ τὸ μέσον χώρημα ὀλίγους μὲν [τοὺς]^a ἐν τοῖς κέρασι προπορευομένους δείκνυσι, τριπλασίονας δὲ ἔχει τοὺς ὀπισθεν ἐπομένους. ἵνα ἂν μὲν κατισχύσωσιν οἱ ἐπὶ τῶν κεράτων τῆς προσβολῆς, ἀρκέσωσιν αὐτοὶ, ἐὰν δὲ μὴ, ῥαδίως ἐπιδραμόντες εἰς τὰ παρ' ἐκότερα μέρη, ἐνωθῶσι τῷ μείζονι τάγματι.

ἢ δὲ πρὸς τὸ εἰρημένον ἀντιπαρασκευαζομένη τάγμα, κυρτὴ μὲν καλεῖται, διὰ τὸ περιφορὸς τῆς τάξεως. μηχανᾶται δὲ αὕτη ὀλίγην ἀποδείξαι τὴν συντεταγμένην ἰδίαν δύναμιν διὰ τοῦ κυρτοῦ σχήματος, τὰ γὰρ σφαιροειδῆ μικρὰ μὲν ἐν τῇ κυκλώσει φαίνεται, ἀπλούμενα δὲ εἰς τὸ διπλάσιον ἐντείνεται. ὥς ἔστιν ἰδεῖν ἐπὶ τῶν κιόνων, οἳ κυκλοτερεῖς εἰσὶν, ὅθεν ἐὰν ὀρῶνται, τὸ μὲν ἥμιου φανερόν ἔχουσι, τὸ δὲ ἥμιου κεκρυμμένον.

καλλίστη δὲ παρατάξεων αὕτη τῇ τέχνῃ, τὸ δεῖξαι μὲν ἑαυτοὺς τοῖς πολμίοις ὀλίγους, ἐπρνεγκεῖν δὲ διπλάσιονας.]^b

46. The *epicampios opisthia* infantry formation and the *kyrtē* infantry formation

The *epicampios opisthia* [ἐπικάμπιος ὀπισθία], or phalanx with retiring wings, is also formed to deceive the enemy. Its centre appears thin, but is actually three times stronger and has three times the men in the rear.¹ If the soldiers on the wings can withstand an attack, all is well. However, if they give way on either flank, the wings can easily unite with that part of the line that holds its ground.²

The formation used to counter this is called the *kyrtē* [κυρτή], or convex crescent, so called because of its shape.³ (See [Plate 29](#).) It gives the appearance of a small force, as formations of men arranged in a curved shape and retiring, as it were, away from the eye seem smaller than they really are, but when they deploy in line, they stretch the formation to double the size that they appeared to be at first. This is evident in pillars of which only half is visible while half is concealed.

There is an advantage to the arrangement of troops as a means by which, although they appear to be of a certain number to the enemy, when the charge commences, he is obliged to sustain the shock of twice as many as he expected.

μζ' Περὶ τῆς τετράγωνος τῶν ἱππέων καὶ τί φάλαγξ ἔμβολον

[Αὕτη τετράγωνος μεν τῷ σχήματι, ἀλλ' οὐ τῷ ἀριθμῷ, ἐπὶ δὲ τῶν τετραγώνων οὐ διώρισται ὁ ἀριθμός, ἔξεστι γὰρ καὶ διπλάσιον ποιῆσαι τὸ μῆκος τοῦ βαθους πρὸς τῇν τοῦ στρατηγοῦ χρείαν. ἐχρήσαντο δὲ μάλιστα τῷ σχήματι τούτῳ Πέρσαι, καὶ Σικελοί, καὶ τῶν Ἑλλήνων οἱ πλειστοι, καὶ τῇν παράταξιν εὐχερῇ καταλαβόντες εἶναι, καὶ τῇν χρῆσιν βελτίονα.

[ἀντικεῖ δὲ αὐτῇ ἡ φάλαγξ,]^a ἡ καλεῖται ἔμβολος [ἔχει]^b πάντα τὰ πλευρὰ ἐξ ὀπλιτῶν τεταγμένα. ἔιληπται δὲ τὸ σχῆμα ἐν τῶν ἱππικῶν ἐμβόλων. ἀλλ' ἐπὶ μὲν τῶν ἱππέων εἰς προέχων ἐξαρκεῖ ἐπὶ τῶν πεζῶν τρεῖς, ὥς οὐκ ὄντος ἐνὸς ἱκανοῦ προσβαλεῖν τοῖς πολεμίοις. οὕτως γοῦν Ἐπαμινώνδας ὁ Θηβαῖος πρὸς Λακεδαιμονίους μαχομένος ἐν Λεύκτραις πυκνώσας εἰς ἔμβολον τὸ στράτευμα κατεκράτησε πλείστης δυνάμεως.

[γίνεται δὲ ὅταν ἡ ἀμφίστομος διφάλαγγία τῆς πορείας τὰ μὲν ἐμπροσθεν κέρατα συνάψῃ,]^c τὰ δὲ ὀπισθεν διασθήσῃ ἐν σχήματι τοῦ Λ στοιχείου.]^d

47. The square cavalry formation and the infantry wedge

The squadron of cavalry in this instance is meant to be quadrilateral in shape but not necessarily square in number. The number of horses that can make up a quadrilateral formation is limitless. The commander, for example, is at liberty to arrange his troops twice as long as they are deep, when he sees the need of it. The Persians, Sicilians and Greeks generally use this formation, thinking it easy to arrange and better suited to general service than most others. Opposed to such a formation is the body of infantry that is known as the *embolon* [ἐμβολον], or wedge, the outer sides of which are covered with completely-armed troops. This formation is taken from the wedge of cavalry. However, in the cavalry wedge, one soldier leads whereas, in the infantry formation, three are necessary, as one is not equal to making an effective charge. (See [Plate 30](#).) At Leuctra, epaminondas the Theban, throwing his men into a wedge in intermediate-order, defeated the lacedaemonians.¹

A wedge of this nature is formed when a *diphalangia antistomos* formation joins its leading wings in the shape of the letter *lambda* (Λ).²

μη' Τί ἐστι φάλαγξ πλαίσιον καὶ τί φάλαγξ πεπλεγμένη

[Τοῦτο πολλαπλάσιον ἔχει τοῦ βάθους τὸ μῆκος, πλαίσιον δὲ λέγεται, ὅταν ἐν πάντων τῶν πλευρῶν ὀπλῖται ὥσι, τῶν τοξοτῶν καὶ σφενδονήτων κατὰ μέσου τεταγμένων.

οἱ οὖν πρὸς τὸ τοιοῦτον ἀντιπαραταττόμενοι σχῆμα τῇν πεπλεγμένην ἀντεπάγουσι τάξιν, ἵνα τῷ ἀνωμάλῳ ἰδίῳ σχήματι προτοσέψωνται τοὺς ἐκ τοῦ [πλαισίου κατὰ τῶν προεξεχοντων τῆς πεπλεγμένης τάξεως ὀρμῆσαι, καὶ διὰ τούτου λύσωσι τῇν πύκνωσιν τῆς τοῦ]a πλαισίου τάξεως. καὶ προορῶσι δὲ οἱ τῆς πεπλεγμένης λοχαγοὶ τοὺς ἐξ ἐναντίας ἡγεμόνας, ἵνα ἐάν τε πεπυκνωμένοι ᾖσι καὶ αὐτοὶ οὕτως ἀντιμάωνται, ἐάν τε μερίζωσιν ἑαυτοὺς κατὰ τῆς ἰδίας δυνάμεως προὔπαντήσωσιν αὐτοῖς καὶ αὐτοὶ πρὸς μερισμὸν ἡυτρεπισμένοι. πλάγιον λέγεται, ὅταν ἐνδυοῖν πλευρῶν γένηται ἡ παράταξις. οὐκ ἐν τετραγώνῳ, ἀλλ' ἐν ἑτερομήκει σχήματι.

[ὀπλῖται μὲν οὖν εἰσιν οἱ διὰ θωράκων, καὶ κρανῶν, καὶ περικνημίδων περιπεφραγμένοι, ἐπιφερόμενοι δὲ καὶ ἀσπίδας εὐμεγέθεις σπιθαμῶν ἑπτὰ. ἢ θυρεοὺς ἐπιμήκεις, καὶ δόρατα ὡσεὶ πηχῶν τέσσαρες καὶ δέκα. πελτασταὶ δὲ, οἱ ἐλαφροτέραν τούτων ἔχοντος ὀπλῖσιν, οἱ ἀντιθωράκων λωρίκια, ἢ ἐπιλωρίκια, πολλάκις δὲ καὶ κασσίδας περιβεβλημένοι. διὸ καὶ οἱ πλείους μετὰ τῶν ψιλῶν πεζῶν τούτους ἔταξαν, ψιλοὶ δὲ οἱ μηδὲν τοιαύτης ὀπλίσεως ἐπιφερόμενοι, ἀλλ' ἢ μόνον τοῖς μακρόθεν πεμπομένοις ἐνηβόλοις χρώμενοι ὅπλοις, οἱ μὲν τόξοις, οἱ δὲ ἀκοντίοις, οἱ δὲ σφενδόναϊς.]b]c

48. The *plaision* infantry formation and the *peplegmenē* infantry formation

The *plaision* [πλαίσιον] formation has its width greatly exceeding its depth. The formation is properly called the *plaision* when it is formed with the completely-armed arranged around the outside, and the archers and slingers are deployed in the middle.¹ (See [Plate 31](#).)

The best way to oppose this order of battle is to use the formation called *peplegmenē* [πεπλεγμένη] or ‘saw tooth’. (See [Plate 32](#).) The objective of this formation is to entice the troops in the *plaision* to attack the projecting points of the *peplegmenē*, and thus break the formation’s density and bring disorder to its structure. The file-leaders (the most advanced men of the *peplegmenē*) must closely observe those in the *plaision* and, if they preserve their order, they must endeavour to repulse them in like manner. However, if those in the *plaision* break their order and advance in a charge, those in the *peplegmenē* must anticipate their attack. The *plagion* takes its name from the word *plagion* when it is formed.² however, it is not an exact square, but is drawn up like an oblong formation.³

The hoplites are those protected by breastplates and helmets and greaves. There are also shields of ample size, of seven spans [*spithamē*, σπιθαμή] (168cm) wide, or long shields and spears extending to 14 cubits (672cm).⁴ The *peltasts* are the troops that have an armament lighter than these [i.e. the hoplites]; some, in

place of wearing a breastplate, wear a corselet [*lorica*, λωρίκια] or an over-corselet [*epilorica*, ἐπιλωρίκια], often with a protective layer of *kassides*.⁵ On this account, many placed them with the light infantry [*psiloi*]. However, the light infantry are troops who have no need of such equipment, but use missiles that can be sent from a distance, some with bows, others with javelins, and others again with slings.

μθ' Τί ἐστὶν ὑπερφαλάγγησις καὶ τί ὑπερκέρασις

Ὑπερφαλάγγισις [μὲν]a ἐστὶν, ὅτ' ἂν ἐξ ἐκατέρων τῶν κεράτων
τῆς φάλαγγος [ὑπερέχωσι]b τῶν πολεμίων.

ὑπερκέρασις δέ [ἐστὶν],c [ὅταν]d καθ' ἓν κέρας
[ὑπερέχομεν]e τῶν πολεμίων, ὥστε ὁ μὲν ὑπερφαλαγγῶν καὶ
ὑπερκεράσει, ὁ δὲ ὑπερκερῶν οὐχ ὑπερφαλαγγήσει. [δυνατὸς]f
γάρ ἐστιν καὶ ἐλάσσονα δύνανται ἔχοντα ὑπερκεράσαι τοὺς
πολεμίους.

[λεπτυσμὸς]g δέ ἐστὶν, ὅταν τὸ βάθος τῆς φάλαγγος
[συναιρεῖται]h καὶ ἀντὶ δεκαῆξ ἀνδρῶν ἐλάσσονες γίνωνται.

49. Outflanking and ‘over-fronting’ an enemy formation¹

Hyperphalangisis [ὑπερφαλάγγησις] is the term used to describe when we outflank the enemy on each wing.

Hyperkerasis [ὑπερκέρασις] is the outflanking of the enemy with one wing. The commander who effects a *hyperphalangisis* likewise effects a *hyperkerasis*. However, the reverse does not follow for an army consisting of smaller numbers than an opponent, who may outflank them on one wing but not necessarily on both.

Leptysmos [λεπτυσμός] is the word used for the thinning of the phalanx by decreasing its depth and, instead of maintaining files of sixteen men, maintaining smaller files.²

ν' Ὅτι πέντε τρόποι τῆς τῶν σκευοφόρων ἀγωγῆς, καὶ πότε δεῖ ἐκάστω τρόπῳ χρῆσθαι

Ἡ δὲ τῶν σκευοφόρων ἀγωγὴ ἀναγκαιοτάτη ἐν τοῖς μάλιστα καὶ ἡγεμόνος δεομένη τυγχάνει. τρόποι δέ εἰσι τῆς τῶν σκευοφόρων ἀγωγῆς πέντε. ἥ γὰρ [αὐτοὺς προάγειν]^a δεῖ τῶν δυνάμεων ἢ ἐπακολουθεῖν ἢ ἐκατέρωθεν [τῶν πλευρῶν εἶναι]^b ἢ [τὸ]^c πέμπτον ὑπὸ τῶν δυνάμεων περιέχεσθαι.

πρὸ μὲν τῆς φάλαγγος, [ἐὰν ἐκ πολεμίας ἀπίης, ἐπὶ δὲ τῇ φάλαγγι]^d, ἐὰν [εἰς]^e πολεμίαν ἐμβάλῃς, παρὰ δὲ [τὸ]^f φάλαγγα, ἐὰν τὰ πλάγια φοβούμενος πορεύῃ, ἐν δὲ τῇ φάλαγγι, ἐὰν κοῖλον τὸ τάγμα [τυγχάνῃς]^g ἄγων.

50. The various methods for leading the baggage train, and when each method should be used¹

The transportation of the baggage is a matter of the utmost importance and requires the responsibility of a special officer. Baggage is conveyed in five various ways: it may move ahead of the army; it may follow behind the army; it may proceed on one flank or the other; or it can proceed in the centre, surrounded by troops.

The baggage ought to precede the army when an attack is expected from the rear; it should follow when the army is ready to engage to the front; it should be conveyed on one flank or the other, which is the opposite to the one that is threatened; or it should be conveyed in the centre when necessity demands the adoption of a hollow square formation.

να' Περί τῶν ἐξοπλισίας παραγγελμάτων, καὶ πῶς δεῖ μὴ ἀμφίβολα αὐτὰ εἶναι

Τελευταῖον δὲ [τὰ]^a παραγγέλματα τῆς ἐξοπλισίας ἀποδοῦναι δι' ὀλίγων, προειπόντας πρῶτον μὲν, ὅτι δεῖ ταῦτα σύντομα εἶναι, εἴτα μὴ ἔχοντα ἀμφιβολίαν. κατὰ τάχος γὰρ ὑπακούοντες φυλάσσεσθαι [αὐτὰς]^b ἀμφιβολίας ὀφείλουσιν, ἵνα [μὴ]^c οἱ μὲν τόδε τί ποιῶσιν, οἱ δὲ τούτῳ τὸ ἐναντίον. οἷον, ἐὰν λέγω κλῖνον, δύνανται τοῦ ὀνόματος τούτου ἀκούσαντες οἱ μὲν ἐπὶ δόρυ, οἱ δὲ ἐπ' ἀσπίδα κλῖναι, καὶ παραχρῆν οὐκ ὀλίγην τὸ πρᾶγμα παρέξει. ἐπεὶ οὖν γένους τάξιν ἔχει τὸ εἰπεῖν κλῖνον, [ἐκέλεύσα δὲ]^d ἐπὶ δόρυ ἢ ἐπ' ἀσπίδα δεήσει ἀντὶ τοῦ εἰπεῖν κλῖνον ἐπὶ δόρυ εἰπεῖν ἐπὶ δόρυ κλῖνον, [τουτέστι]^e προτάξαι τὸ εἶδος καὶ ἐπιφέρειν τὸ γένος. ὁμοῦ γὰρ πάντες τὸ αὐτὸ ποιήσουσι. καὶ ὁμοίως μεταβαλοῦ ἢ ἐξέλισσε. πάλιν γὰρ ταῦτα γένους τάξιν ἔχει, διὸ τὰ εἶδη προτάξομεν, οἷον ἐπὶ δόρυ μεταβαλοῦ ἢ ἐπ' ἀσπίδα μεταβαλοῦ. διόπερ οὕτως παραγγελοῦμεν τὸν Λάκωνα ἐξελίσσειν, τὸν Μακεδόνα [ἐξελίσσειν, τὸν χόριον ἐξελίσσειν. ἐὰν δὲ εἴπῃς ἐξέλισσε τὸν Μακεδόνα]^f ἢ ἐξέλισσε τὸν Λάκωνα, συμβήσεται, ἐὰν προτάξῃς τὸν ἐξελιγμόν, ἄλλο καὶ ἄλλο τὸ εἶδος ποιήσιν τοῦ ἐξελιγμοῦ. τούτου δὴ χάριν φυλακτέον τὰς εἰρημένους ἀμφιβολίας καὶ τὰ εἶδη προτάσσειν τῶν γενῶν.

51. The words of command for those under arms, and how encompassing they should be¹

Lastly, it is proper to outline the words of command, emphasizing that they ought to be short and without ambiguity. As the men are required to promptly carry out what they are commanded to perform, everything that is ambiguous must be carefully avoided, lest some of the men do one thing and some of them another. Thus, if you simply give the command ‘face!’, some of those who hear it may turn to the right, and others to the left, and this will result in no small amount of confusion. As the word ‘face’ has only a general meaning, it is proper to add ‘to the pike’ or ‘to the shield’. However, instead of saying ‘face to the pike’ [κλῖναι ἐπὶ δόρυ], it is better to say ‘to the pike, face!’ [ἐπὶ δόρυ κλῖναι], prefixing the particular direction before the general command. The reasoning behind this holds true in every case. For example, to merely command ‘wheel!’ or ‘counter-march!’ only conveys the general term and, therefore, the particular prefix is added: ‘to the pike, wheel!’ or ‘to the shield, wheel!’. For the same reason, the orders for counter-marches are designated as ‘Lacedaemonian, counter-march!’, ‘Macedonian, counter-march!’ and ‘Choral, counter-march!’ If, on the other hand, the command ‘counter-march!’ is given first, it may happen that some of the soldiers will execute the movement in one way, and some in another. On this account, all ambiguities must be avoided, and it is proper to prefix the particular direction to the general command.

νβ' Περὶ τῶν σιωπῆν καὶ προσέχειν

δεῖ [δὲ]a πρὸ πάντων παραγγέλλειν σιωπῆν [προσέχειν κελεύσαντα]b τῷ παραγγελλομένῳ, ὅπερ καὶ Ὅμηρος ἐν τοῖς μάλιστα ἐσημειώσατο.

ἡγεμόνες δὲ μάλιστα Δαήμονες ἐστιχούντο νωλεμέως πόλεμόν δε, κέλευε δὲ οἷσιν ἕκαστος ἡγεμόνων, οἱ δ' ἄλλοι ἀκὴν ἔχον οὐδέκε φαίης τόσσον λαὸν ἔπεσθαι ἔχοντ' ἐν στήθεσιν αὐδὴν σιγῇ δειδιότες σημάντορος ἀνδρὸς ἐνιπὴν.

[καί]c οἱ δ' ἄρ' ἴσαν σιγῇ μένεα πνεύοντες Ἀχαιοί, ἐν θυμῷ μεμαῶτες ἀλεξέμεν [ἀλλήλοισιν].d

τῶν δὲ [βαρβάρων]e τὴν ἀκοσμίαν ὄρνισιν [ἀπεικάζεν]f εἰπών.

τῶν δ' ὥστ' ὀρνίθων πετεηνῶν ἔθνεα πολλά, χηνῶν ἢ γεράνων ἢ κύκνων δουλιχοδείρων, Ἀσίῳ ἐν λειμῶνι Καϋστρίου ἀμφὶ ῥέεθρα [ἐνθα καὶ πετόονται]g ἀγαλλόμεναι [πτερύγεσιν],h κλαγγηδὸν προκαθίζοντων, σμαραγεῖ δέ τε λειμῶν.

[καί]i ὥς Τρώων ἀλαλητὸς ἀνὰ στρατὸν εὐρὺν ὀρώρει, οὐ γὰρ πάντων ἦεν ὁμὸς θρόος [οὐδ' ἴα γῆρυς].j

καὶ ἐν ἄλλοις.

αὐτὰρ ἐπεὶ κόσμηθεν ἄμ' ἡγε μόνεσσιν ἕκαστοι, Τρῶες μὲν κλαγγῇ [ἐνόπῃ τ' ἴσαν],k ὄρνιθες ὥς.

[καί]l οἱ δ' ἄρ' ἴσαν σιγῇ μένεα [πνεύοντες]m Ἀχαιοί, ἐν θυμῷ μεμαῶτες ἀλεξέμεν ἀλλήλοισιν.

52. On silence and attention¹

It is absolutely necessary to preserve silence so that the word of command can be distinctly heard and promptly obeyed. Thus we read in Homer:

So then, rank after rank, the Dannaan battalions moved in a ceaseless advance to war. Each of the commanders gave orders to his men, and the rest of the army moved in silence; and you would not think that so many men, with voices in their chests, were marching behind them, as they went silently, out of fear of their commanders.²

And elsewhere: ‘The Achaeans came on in silence, breathing boldness, their minds set on supporting each other.’³ However, Homer likens the noise of the barbarians, when under arms, to the clamour of birds:

Like great flocks of flying birds, geese or cranes or long-necked swans in an Asian water meadow by the streams of Kaystrios, which wheel this way and that in their wing’s glory, and the meadow echoes their cries as they settle in uproar.⁴

And again:

But the Trojans ... so a clamour rose throughout the breadth of the army since there was no common speech or single language shared by all, but a mix of tongues and men from many different lands.⁵

And again elsewhere:

When the divisions on both sides had been marshalled under their commanders, the Trojans came on with cries and shouting like birds, like when the cries of cranes fill the sky.⁶

And: 'The Achaeans came on in silence, breathing boldness, their minds set on supporting each other.'⁷

νγ' Περὶ τῶν παραγγελμάτων

Ἄγε εἰς τὰ ὄπλα. παράστητε παρὰ τὰ ὄπλα. ὁ σκευοφόρος ἀποχωρεῖτω τῆς φάλαγγος.

[εἶτα καὶ προσεχέτω]a τῷ [παραγγελλομένῳ].b ὑπόλαβε, ἀνάλαβε. διάστηθι. ἄνω τὸ [δόρυ].c στοίχει, ζύγει, παρόρα ἐπὶ τὸν ἡγούμενον. τὸν ἴδιον λόχον ὃ [ἀρχηγὸς ἀπευθυνέται].d συντήρει τὰ ἐξ ἀρχῆς διαστήματα. ἐπὶ δόρυ κλῖνον, πρόαγε, ἔχου οὕτως, [εἰς ὀρθὸν ἀπόδος. ἐπ' ἀσπίδα κλῖνον, πρόαγε, ἔχου οὕτως. ἐπὶ δόρυ μεταβαλοῦ, πρόαγε, ἔχου οὕτως].e [ἐπ' ἀσπίδα μεταβαλοῦ, πρόαγε, ἔχου οὕτως.]f τὸ βάθος διπλασίαζε, ἀποκατάστησον. [τὸ μῆκος διπλασίαζε, ἀποκατάστησον.]g τὸν Λάκωνα ἐξέλισσε, ἀποκατάστησον. τὸν Μακεδόνα ἐξέλισσε, ἀποκατάστησον. τὸν χόριον ἐξέλισσε, ἀποκατάστησον. ἐπὶ δόρυ ἐπίστρεφε, ἀποκατάστησον. ἐπὶ δόρυ περίσπα, ἀποκατάστησον. [ἐπὶ δόρυ ἐκπερίσπα, ἀποκατάστησον. ἐπ' ἀσπίδα ἐκπερίσπα, ἀποκατάστησον.]h

[Αὐταί]i σοι [περὶ]j τοῦ τακτικοῦ [ἀθηγήσεις]k ἐλέχθησαν, σωτηρίαν τοῖς χρωμένοις αὐταῖς πορίζουσαι καὶ τοῖς ἐναντίοις ἦτταν ἐπάγουσαι.

53. Various words of command¹

To arms! [*age eis ta hopla*] Stand to your arms! [*parastēthi epi ta hopla*] Remove the baggage! [*ho skeuophoros apochōreitō tēs phalaggos*]

And again: Attention! [*proseche*] Fall in! [*hupolabe*] fall out! [*analabe*] Mark distances! [*diastēthi*] Raise pikes! [*anō ta doru*] Dress files! [*stoichei*] Dress ranks! [*zugei*] eyes front! [*parore epi ton hegoumenon*] leaders, order your files! [*ton idion lochon ho archēgos apeuthunetai*] Take the first distance! [*syntērei ta ex archēs diastēmata*] To the pike, face! [*epi doru klinai*] March! [*proaye*] halt! [*echetō*] The depth, double! [*to bathos diplasiaze*] As you were! [*apokatastēson*] The width, double! [*to mēkos diplasiaze*] As you were! [*apokatastēson*] lacedaemonian, Counter-march! [*ton Lakaōna exelisse*] As you were! [*apokatastēson*] Macedonian, Counter-march! [*ton Makedona exelisse*] As you were! [*apokatastēson*] Choral Counter-march! [*ton chorion exelisse*] As you were! [*apokatastēson*] To the pike, face! [*epi doru klinai*] As you were! [*apokatastēson*] To the pike, wheel! [*epi doru epistrophe*] As you were! [*apokatastēson*]

I have thus offered to you such tactical precepts as will ensure the safety of those who observe them and will bring destruction upon their enemies.

Notes

Preface

1. T.F. Dibdin, *An Introduction to the Knowledge of Rare and Valuable Editions of the Greek and Latin Classics* (London: W. Dwyer, 1804), pp. 4–5. A good example of this combining of the two authors is the fact that Arcerius' 1613 edition is attributed to Claudius Aelianus, the writer who lived about 100 years after the book was written.
2. Dibdin, *op. cit.*, p. 5.
3. For discussions about the authorship of the works of Aelian, Arrian, Asclepiodotus and Poseidonius, and their possible use of each other's works as sources, see: W.A. Oldfather, 'Notes on the Text of Asklepiodotos', *The American Journal of Philology* 41.2 (1920), pp. 127–146; O.L. Spaulding, 'The Ancient Military Writers', *The Classical Journal* 28.9 (1933), pp. 657–669, at 665; P.A. Stadter, 'The *Ars Tactics* of Arrian: Tradition and Originality', *Classical Philology* 73.2 (1978), pp. 117–128; A.M. Devine, 'Aelian's *Manual of Hellenistic Military Tactics*. A New Translation from the Greek with an Introduction', *Ancient World* 19.1–2 (1989), pp. 31–64, at 32–33.
4. Dibdin, *op. cit.*, p. 5.
5. For example, some of the illustrations in the 17th century texts show commanders in front of their respective units (i.e. not as part of the file(s) that make up their respective units). This makes no tactical sense in regards to a massed pike formation as it does not give the unit an even frontage. It is more likely that the officers were part of the file and the images in this edition have been altered from the 17th century ones accordingly. Additionally, the 17th century illustrations depict the men wielding their weapons as the 17th century pikeman did (at shoulder height). It is unlikely that the Hellenistic pike was carried in this way

for battle, but rather it was wielded at waist level so that the shield, which was carried on the left forearm by a central armband, could be placed in a protective position across the bearer's front. As such, these pictures have also been altered accordingly.

Introduction

- a. This dedication to Hadrian appears in Robertello's 1552 edition and Arcerius' 1613 edition. It is then carried into Bingham's 1616 edition and Augustus' 1814 edition. Interestingly, the Köchly and Rüstow 1885 edition has an alternate version of the text where the work is dedicated to Trajan (αὐτόκρατορ Καῖσαρ υἱὲ θεοῦ Τραῖανὲ σεβαστέ). This was then carried through to Devine's 1989 edition of the text. In his preface, Aelian states that the work was initially begun under Trajan (whom he calls Nerva), but it was then completed for Hadrian; see note 2.
- b. *Arc 1613* = ἐβουλήθην.
- c. *Arc 1613* = συγγράμμασι.
- d. This does not appear in *Arc 1613*.
- e. This does not appear in *Rob 1552* or *Arc 1613*.
- f. *Arc 1613* and *K&R 1855* = ἀπημαυρωμένον.
- g. *K&R 1855* = τάχα.
- h. *K&R 1855* = ἐπὶ τοῦ θεοῦ πατρός σου Νέρουας.
- i. *K&R 1855* = ἐπισήμῳ ὑπατικῷ.
- j. *K&R 1855* = ἀπενεγκαμένῳ.
- k. *K&R 1855* = ἐσπουδάσθαι.
- l. This does not appear in *K&R 1855*.
- m. *K&R 1855* = ἔχων.
- n. *K&R 1855* = τελειῶσαι.
- o. This does not appear in *Arc 1613* or *K&R 1855*.
- p. *K&R 1855* = ἔνεκα.
- q. *Arc 1613* = βεβαιούμενος.
- r. *K&R 1855* = καὶ τοῦ.
- s. *Arc 1613* = ἡμᾶς.
- t. *K&R 1855* = ἂν ταῖς σαῖς ἐπινοίαις αὐτὰ.
- u. This does not appear in *Rob 1552* or *Arc 1613*.
- v. This does not appear in *Arc 1613*.
- w. *Rob 1552* = κατανοήσεῖς.
- x. *K&R 1855* = ἐπιζητήσης.
- y. *K&R 1855* = ῥαδίως.

1. For the organization of troops outlined by Homer, see [Chapter 1](#). 'Mathematics' here refers to the art of learning rather than simple numeracy skill.
2. The emperor Nerva who is mentioned here is not Marcus Cocceius Nerva, who succeeded the emperor Domitian and reigned from AD 96–98. Rather it is a reference to Marcus Ulpius Nerva Traianus (i.e. Trajan), who ruled from AD 98–117 and who was also called Nerva because he had been adopted by Nerva Cocceius and later succeeded him. The confusion over these names may be the source of the passage in Köchly and Rüstow's 1885 edition, based upon the dedication in the *Codex Laurentianus graecus* 55.4, which must assume that the Nerva who is mentioned here was the emperor from AD 96–98 and that the work was subsequently completed under, and dedicated to, the succeeding emperor, Trajan. A.M. Devine (*Ancient World* 19.1–2, 1989, p. 31) suggests that the use of the plural in Aelian's reference to the emperor being a general in many great 'wars' in the preface is an allusion to the two Dacian Wars fought by Trajan and thus dates the dedication of the text to Trajan post AD 106. However, this ignored the editions of the text that state that the work was completed under Hadrian (who also undertook several military campaigns from Britain to the Near East). In these editions, Aelian describes Trajan as Hadrian's father; indeed Hadrian claimed that he was Trajan's son by adoption (*HA* 3.5–4.10). However, Cassius Dio (69.1–4) plainly denies this and the *Historia Augusta* (4.1) says that some reported that he was adopted through a ruse of Plotina (Trajan's wife) who 'substituted someone with a faint voice pretending to be Trajan on his deathbed, who formally adopted Hadrian, despite the fact that Trajan had already departed this world at that time'. However, Hadrian had become a ward of Trajan and of another Roman noble at the time his father had died when he was ten years old (*HA* 1.6) and so was clearly able to claim the status of a son of Trajan. The figure Frontinus that Aelian mentions is the same person who wrote a book on stratagems that is still extant. Vegetius (*Mil.* 2.3) reports that Frontinus was held in high esteem by Trajan. Tacitus (*Ag.* 17) also mentions a Frontinus who suppressed the Silures of Britain during the reign of Vespasian. Pliny the Younger calls Frontinus one of the most respected citizens of his day (*Ep.* 4.8.3, 5.1.5) and states that he succeeded Frontinus to the priesthood when he died in AD 103. In the next chapter of his work, Aelian calls this person

Fronto (now corrected). There is a Fronto who was consul in the third year of the reign of Nerva, as is mentioned by Cassius Dio (68.3). However, this person's full name is Marcus Cornelius Fronto while the strategist mentioned by Aelian is Julius Frontinus and so cannot be the same person. Thus Aelian had to have met Frontinus some time prior to his death (most likely during the early years of the reign of Trajan), began researching and writing his work on tactics, abandoned it, and then took it up again and dedicated it to the new emperor Hadrian, when it was completed. Clearly the surviving manuscripts of Aelian's *Tactics* contain two different dedications. As such, it is possible that what is contained within the various editions of Aelian's *Tactics* in collections and publications around the world are two completely different manuscript traditions. The first of these, based upon the earlier *Codex Laurentianus graecus* 55.4 and dedicated to Trajan, but with much of the text of the later editions missing, a table of summary points rather than a concise index, and varying combined or differently ordered chapters, seems to represent the original (and incomplete) draft of the work which, as Aelian states in his preface, was begun under Trajan but was then abandoned. This would explain the seemingly incomplete nature of the text and its dedication to Trajan as preserved in the *Codex Laurentianus* and passed on through later editions based upon it such as those of Köchly and Rüstow in 1855 and Devine in 1989. The other versions of the *Tactics*, presenting a much more complete version of the text, often separated into their individual chapters and with an accompanying index, but dedicated to Hadrian, seem to preserve the version of the text that was completed by Aelian after he had taken the project back up again. As the emperor had changed by the time this had occurred, the dedication of the work had to be altered from presenting the text to Trajan to presenting it to Hadrian. However, what seems to have only been changed was the actual name of the emperor to whom the work was dedicated, while the rest of the original dedication was left intact. The fact that Aelian dedicated the work to a militarily successful commander raises the possibility that the reference to 'great wars' may be a hold-over from the original dedication written when the work was begun under Trajan (which would then correlate with Devine's reckoning) and that little of the language was changed when it was subsequently dedicated to Hadrian. However, because of the dual usage of the name Nerva by

both the emperor of that name and his successor Trajan, and the military successes of both Trajan and Hadrian, the wording of the rest of the dedication (referring to ‘Nerva’ being the father of the emperor to whom the work was dedicated) still worked for a dedication to Hadrian and so did not really need to be altered any further. Whether Aelian consciously considered this, or whether he merely changed the name of who the work was dedicated to in the final draft, will probably never be known.

3. As such, we get a direct declaration by Aelian that what he is presenting to Hadrian is, at least in his view, the art of war as it was practised by Alexander the Great at the start of the Hellenistic period (350–168 BC).

Chapter 1

- a. *Arc 1613* = δὲ.
- b. *K&R 1855* = Μενεσθέα.
- c. *Rob 1552* = οὗ τις; *K&R 1855* = οὐπω τις.
- d. *K&R 1855* = ἀνδρὶ ὑπατικῷ.
- e. This does not appear in *Rob 1552* or *Arc 1613*.
- f. *K&R 1855* = ἱκανά.
- g. *Rob 1552* = ἐποίητε.
- h. *K&R 1855* = συνέταξε.
- i. *K&R 1855* = πρῶτον.
- j. *K&R 1855* = ψνώσεως.
- k. *K&R 1855* = ὑπολαμβάνοντες.
- l. *K&R 1855* = ἡμῶν.
- m. *K&R 1855* = ἄλλους.
- n. *K&R 1855* = ἐξασθενήση ἐναργῶς παραστῆσαί τι.
- o. *K&R 1855* = σχημάτων.
- p. This does not appear in *Rob 1552* or *Arc 1613*.
- q. *K&R 1855* = παράσχω.
- r. *Arc 1613* = ὀνόμασιν.
- s. *K&R 1855* = αὐτῶν.
- t. *Arc 1613* = ὀνομάσαι.
- u. *K&R 1855* = ὅταν ἐκείνοις.
- v. *K&R 1855* = κατανοήσιν.
- w. This does not appear in *Arc 1613*.
- x. *Arc 1613* = αἰεὶ.

1. See also Arr., *Tact.* 1.
2. Hom., *Il.* 2.555–557.
3. Unfortunately, the work of Stratocles is no longer extant. Frontinus' work on stratagems survives, but a specific work on tactics does not.
4. Aeneas is mentioned by Polybius (10.44.1–13) where he discusses the signals that can be made by a fire-beacon in the case of an enemy attack. This work on 'How to Withstand a Siege' by Aeneas is still extant. However, a specific book on tactics or generalship (Polybius calls it 'A Commentary on the Office of General', and Aelian calls it "Book on the Office of a General") has not survived. Cyneas is mentioned by Plutarch in his biography of Pyrrhus (*Pyrr.* 14) and by Cicero (*Ad. Fam.* 9.25.1).
5. The writings of Pyrrhus are mentioned by both Cicero (*Ad. Fam.* 9.25.1) and Plutarch (*Pyrr.* 8.2), and Pyrrhus was thought to have been one of the greatest generals of all time (Plut., *Pyrr.* 8). Pyrrhus had a son called Alexander (see Plut., *Pyrrh.* 1, 6, 9; Just., *Epit.* 18.1–3; Ath. 3.73) who is the one mentioned here. Alexander ruled Epirus after his father's death. A reference to a book on tactics written by Alexander is found nowhere else other than in Aelian. According to Plutarch (*Phil.* 4.4), a work on tactics by Evangelus was one of the texts studied by the Achaean general Philopoemen. The Polybius mentioned by Aelian is the same whose history is, for the most part, still extant. A specific work of his on tactics has not survived. However, there are numerous passages scattered throughout his history that demonstrate a firm understanding of tactics and strategy. Iphicrates was a great Athenian commander and military reformer of the fourth century BC (see Nepos, *Iphicrates* 1.1–4; Arr., *Anab.* 2.15). Iphicrates' father had been adopted by the grandfather of Alexander the Great (Aeschin., *On the Legation* 28) and Iphicrates' military reforms may have had a strong influence on the development of the Macedonian way of war. Posidonius was a philosopher, scientist and strategist (see Cic., *Tusc.* 2.25.61; Plin., *HN* 7.30). He is credited with inventing a 'sphere', or orrery, a mechanical model that correctly calculated the motions of the planets in the 1st century BC (Cic., *Nat. D.* 88). His work on tactics may have been the source of the slightly later work by Asclepiodotus. Sadly few if any of these works survive, and little is known about the other authors or their works that are mentioned by Aelian.
6. Pl., *Leg.* 1.626.

Chapter 2

- a. *Arc 1613* = δέ.
- b. This does not appear in *Arc 1613*.
- c. This does not appear in *Rob 1552* or *Arc 1613*.
- d. *K&R 1855* = δούλων.
- e. *Arc 1613* = ἐπακολουθοῦσι.
- f. This does not appear in *Arc 1613*.
- g. *K&R 1855* = ἦ.
- h. *Arc 1613* = ἦ.
- i. This does not appear in *Rob 1552* or *Arc 1613*.
- j. *K&R 1855* = ἀπὸ ξύλου.
- k. This does not appear in *Rob 1552* or *Arc 1613*.
- l. *K&R 1855* = διασκευῆ.
- m. *K&R 1855* = σαρισῶν.
- n. *Arc 1613* = μεγέθη.
- o. *K&R 1855* = ἡ τούτων.
- p. *Arc 1613* = πλεῖστοι.
- q. *Arc 1613* = συντάττουσι.
- r. This does not appear in *Arc 1613*.
- s. *K&R 1855* = εὔλαις.
- t. *K&R 1855* = δ'.
- u. This does not appear in *Rob 1552* or *Arc 1613*.
- v. *K&R 1855* = αὐτὸ.
- w. *Arc 1613* = ξηστοφόροι.
- x. This does not appear in *Arc 1613*.
- y. *K&R 1855* = ἑπακοντισταὶ.
- z. This does not appear in *Rob 1552* or *Arc 1613*.
- aa. This does not appear in *K&R 1855*.
- ab. *K&R 1855* = ἃ ἄπαξ ποτὲ.
- ac. *K&R 1855* = προειρημένοις.
- ad. *Arc 1613* = ἀκοντίζοντας.
- ae. This does not appear in *K&R 1855*.

1. See also Ascl., *Tact.* 1.1–4; Arr., *Tact.* 2–4.
2. Aelian does not discuss naval matters in this work on tactics. Such a discussion may have formed part of another work. However, if it was ever written, it is now lost.
3. The hoplite shield (*aspis*) was around 90cm in diameter. The hoplite spear (*doru*) was about 255cm long.

4. The word *argilos* (ἀργίλος) means 'white clay'. This may be a reference to the linen cuirass, or *linothorax*, a composite armour made from gluing several layers of cloth and/or hide together to create a material not unlike modern Kevlar. The finished cuirass had similar protective properties to a bronze plate cuirass but weighed slightly less (see Nepos, *Iphicrates* 1.4). Representations of the Hellenistic linen cuirass in tomb paintings show many of them to have had a base colour of white while others were brightly coloured (for example, see R. Post, 'Alexandria's Colourful Tombstones', *Ancient Warfare* 1.1, 2007, pp. 38–43). It may be that the cuirass was finished with a thin layer of a clay-based whitewash (which would account for the name *argilos*) which some soldiers appear to have left unpainted, while others covered their armour with strong colours and intricate patterns and designs. Thus Aelian implies in this passage that the phalangites of the fourth century BC wore a lighter linen armour while the hoplites of the time still wore the traditional bronze panoply of a century earlier. Interestingly, Köchly and Rüstow's 1855 edition of the *Tactics* replaces the word *argilos* with *xulou* (ξύλου), which means 'made of wood' (see note e). It is unlikely that the entire armour of the peltast/phalangite was made from this material. However, the so-called 'cuirass of Philip', found in a royal tomb at Vergina in Macedonia, was reinforced with metal plates. As such, it cannot be ruled out that sections of peltast/phalangite armour may have been similarly reinforced with wooden plates as this would account for the different terminology, although it does seem unlikely.
5. According to Asclepiodotus (5.1) the shield (*peltē*) carried by the Macedonian phalangite was '64cm in diameter and not too concave'. According to both Nepos (*Iphicrates* 1.4) and Diodorus (15.44.3), the Athenian military reformer Iphicrates created the forerunner of the Hellenistic phalangite around 374 BC. As part of his reforms, the large *aspis* was replaced with the smaller *peltē*, the size of the spear was doubled, and the armour was changed from bronze plate to linen so as to be less cumbersome. Consequently, troops that had once been referred to as 'hoplites' were now called 'peltasts' after the smaller shield that they now carried. This description closely correlates with Aelian's description of the peltasts. The resultant pike (*sarissa*) carried by the Iphicratean peltast (who by the Hellenistic period was also called a 'phalangite': livy 37.40–42) would have been around 510cm (or about 11 cubits or 16 Greek feet) long, which is too large to have been

wielded in one hand, and this explains the reduction in the size of the shield as it now freed the left hand to help wield the weapon (see [Chapter 12](#) note 2). The size of the pike then varied in length throughout the Hellenistic period. At the time of Alexander the Great (the time Aelian says he is writing about) the weapon measured around 576cm (or 12 cubits) in length (see also Ascl., *Tact.* 5.1; Theoph., *Caus. pl.* 3.12; Arr., *Tact.* 12.7). As such, the weapon carried by the Iphicratean peltast was shorter than the pike carried by the Hellenistic phalangite which may be what Aelian is referring to here. It is important to note, however, that while the weapon of the peltast was shorter than the Macedonian pike, it was still twice the length of the spear carried by the hoplite.

6. The word 'peltast' has been, more often than not, used interchangeably with the terms 'skirmisher' or 'light infantry' by numerous scholars over the years. However, here Aelian clearly distinguishes between the light infantry/ skirmishers (the *psiloi*) and the peltasts, by which he must be referring to the Iphicratean peltasts or the forerunners of the Hellenistic phalangites.
7. The 'Tarantine' horsemen were named after the city of Tarentum in southern Italy, formerly the city of Taras, which was founded by the Spartans. They were experts in mounted hit-and-run warfare (see Xen., *Hell.* 1.7).

Chapter 3

- a. *Arc 1613* = εἰρημένης.
- b. *Arc 1613* = ἐκάστης.
- c. *K&R 1855* = πρωτοστατοῦν.
- d. *K&R 1855* = τουτέτι.
- e. *K&R 1855* = συμμέτρως.
- f. *K&R 1855* = τὰ.
- g. *K&R 1855* = καὶ ἐν αὐταῖς ταῖς.
- h. *K&R 1855* = ἐστί.
- i. *K&R 1855* = ἐάν τις πλῆθος ἄτακτον.

1. See also Arr., *Tact.* 5.

Chapter 4

- a. *K&R 1855* = αὐτὸν.
- b. *K&R 1855* = ἂν τε γὰρ ἀκοντίζωσιν.

c. *Arc 1613* = εὐκόλως.

1. See also Ascl., *Tact.* 2.1; Arr., *Tact.* 5–6.
2. A group of files, arranged side by side, made a phalanx (see [Chapter 7](#)).
3. Battle lines of different depths were also a common feature of the warfare of the preceding Classical Age. For example, the Athenians were arranged eight deep at the Piraeus in 424 BC (Thuc. 4.94) as were the Spartans at Mantinea in 418 BC (Thuc. 5.68), in Thrace in 402 BC (Polyaenus, *Stratagems* 2.2.9), at Maeander in 399 BC (Xen., *Hell.* 3.2.16), and at Corcyra in 373 BC (Xen., *Hell.* 6.2.21). The Spartans had also deployed ‘not more than twelve deep’ for the battle of Leuctra in 371 BC (Xen., *Hell.* 6.4.12), while the Syracusans deployed in files of sixteen in 394 BC (Thuc. 6.67). Sixteen deep was also the ordered deployment for the battle of Nemea in 394 BC (Xen., *Hell.* 4.2.18). Some of the deepest deployments that are recorded include the twenty-five deep Theban line for the battle of Delium in 424 BC (Thuc. 4.93) and the fifty deep deployments by the Athenians at the Piraeus in 404 BC (Xen., *Hell.* 2.4.11) and the Thebans at Leuctra in 371 BC (Xen., *Hell.* 6.4.12). Arrian (*Anab.* 7.23.3–4) calls the file a *dekad* (δεκάδος), which suggests a file of ten men (the Roman term was *decuria*). This appellation seems to have been retained in Hellenistic armies regardless of the size of the file, as the reformed infantry of Alexander that Arrian describes is still a file of sixteen men, but under the command of a *dekadarchos* (δεκαδάρχος); see [Chapter 5](#).
4. In [Chapter 11](#), Aelian discusses the different intervals that should be observed between each man in the different configurations of the phalanx. He states that in an ‘open-order’ each man should be separated by 4 cubits (192cm), in an ‘intermediate-order’ by 2 cubits (96cm), and in a ‘close-order’ each man is separated by 1 cubit (48cm). As such, a sixteen deep phalanx arranged in open order would have a depth of over 30m. A phalanx arranged thirty-two deep in open order would have a depth of over 60m. While both archers and slingers could fire their missiles over such a formation (even when it is assumed that there would also be an interval between the back of the phalanx and the body of light troops), it is unlikely that light troops armed with javelins would be able to cast their weapons over such formations without risking hitting the men in the forward ranks in the back as the average range for a javelin was only about 30m at most. It seems more likely that Aelian is referring only to weapons cast over the top of formations

in either intermediate or close order.

Chapter 5

- a. *Arc 1613* = ἐστι.
- b. *K&R 1855* = ἐνωμοτίας.
- c. *K&R 1855* = ἐνωμοτίας διμοιρίαν.
- d. *Arc 1613* = ἐστιν.
- e. This does not appear in *K&R 1855*.
- f. *Arc 1613* = δὲ.
- g. *K&R 1855* = ἔτι τοῦ.
- h. *Arc 1613* = ἐπὶ τοῦτου κατόπιν; *K&R 1855* = ἔτι τοῦ κατόπιν.
- i. This does not appear in *Rob 1552* or *Arc 1613*.
- j. *K&R 1855* = οὕτως.

- 1. See also Ascl., *Tact.* 2.2–3; Arr., *Tact.* 6–7.
- 2. The word used here for ‘file’ is *stichos* (στίχος) rather than *lochos*. *Stichos* is a word that has several meanings pertaining to organization (not just of men, but of trees and writing as well). In the sense of this passage, it is meant to convey the idea of men arranged in an orderly manner, one behind the other.
- 3. In other words, in a file of sixteen, the file would be led by the file leader at the head of the file (position 1) while the *dimorites* was, in effect, the half-file leader (located in position 9), with the half-file under his command covering the rear half (the last eight ranks) of a sixteen-man file. Asclepiodotus (*Tact.* 2.2) calls the half-file a *hemilochion* (ἡμιλόχιον), under the command of a *hemilochite* (ἡμιλοχίτης) if the phalanx is arranged sixteen deep, or a *dimoiria* (διμοιρία), under the command of a *dimorites* (διμοιρίτης) if the phalanx is arranged twelve deep.
- 4. In a sixteen-man file, there would be a file leader, then a group of six ‘followers’, and another ‘follower’ who acted as the ‘half-file closer’. Next would come the *dimorites* as leader of the rearward half-file, then another six ‘followers’, and finally the *ouragos* at the rear; this makes, as Aelian puts it, an alternating pattern of leader, follower(s), leader (of the half-file), follower(s), and finally another officer. In Alexander’s reformed infantry files (which were referred to as *dekads*), the file leader was known as a *dekadarchos*, the half-file leader was called a *dimorites*, and the closer of each half-file was called a *dekastateros* (a ‘10-stater man’); see Arr., *Anab.* 7.23.3–4; *Tact.* 6.2; Diod. Sic. 17.34.1.

Asclepiodotus (*Tact.* 2.3) says that the ‘leaders’ and ‘followers’ alternated, one behind the other, throughout the file. This is echoed in the illustrations that accompany the earlier editions of the *Tactics*. However, based upon the configuration of Alexander’s formations as outlined by Arrian, this seems unlikely. In a sixteen-deep file, the half-file leader (in position 9) would assume the position of a ‘leader’ if the titles of ‘leader’ and ‘follower’ alternated backwards from the file-leading *lochargos*. However, within the same configuration, the seemingly experienced ‘half-file closer’, standing in position 8, would occupy the place of a ‘follower’ behind a relatively inexperienced ‘leader’ in rank 7. This suggests two possible alternatives: 1) if the titles of ‘leader’ and ‘follower’ provided by Asclepiodotus and Aelian do alternate backwards from the file-leading *lochargos* as some interpretations suggest, then the titles are in name only and are not an indication of rank or experience; or 2) each half-file was arranged as detailed above with a ‘leader’ (the *lochargos*), then a group of followers, and then another ‘leader’ acting as the half-file closer (the *dekastateros*).

Chapter 6

a. This does not appear in *Rob* 1552 or *Arc* 1613.

b. *K&R* 1855 = λοχαγοῦ.

c. *K&R* 1855 = λοχαγοῦ.

d. *K&R* 1855 = ό.

e. *K&R* 1855 = λοχαγοῦ.

f. *K&R* 1855 = μετὰ.

g. *K&R* 1855 = εἴτα.

h. *K&R* 1855 = τοιοῦτον.

1. See also Ascl., *Tact.* 2.5; Arr., *Tact.* 7.

2. The lateral joining of files in this manner gives breadth to the formation and creates what is known as the phalanx (see [Chapter 7](#)).

Chapter 7

a. This does not appear in *Rob* 1552 or *Arc* 1613.

b. This does not appear in *Rob* 1552.

c. *K&R* 1855 = δύο ἀπὸ τῆς τοῦ.

d. *K&R* 1855 = λατὸν.

e. This does not appear in *Rob* 1552 or *Arc* 1613.

f. This does not appear in *Rob* 1552 or *K&R* 1855.

g. *Arc 1613* = κατεπειγούσας.

1. See also *Ascl.*, *Tact.* 2.7; *Arr.*, *Tact.* 8–9.

2. See chapters 15–17.

3. All of this is covered in the following chapters of the book. In some earlier translations of the text, this passage forms the start of the eighth chapter rather than the conclusion of the seventh.

Chapter 8

a. *K&R 1855* = τὸν τακτικὸν.

b. *K&R 1855* = γιγνώσκειν.

c. *Arc 1613* = τουτέστι; *K&R 1855* = ἔστιν.

d. This does not appear in *Rob 1552*.

e. *Arc 1613* = τότε.

f. *Arc 1613* = δὲ.

g. *Arc 1613* = ἡμίση.

h. *K&R 1855* = τακτικὰ γραψάντων.

i. This does not appear in *Arc 1613* or *K&R 1855*.

j. This does not appear in *Arc 1613* or *K&R 1855*.

k. This does not appear in *Arc 1613*.

l. This does not appear in *Arc 1613* or *K&R 1855*.

m. This does not appear in *Arc 1613* or *K&R 1855*.

n. *Arc 1613* = διαγραφῆς.

1. See also *Ascl.*, *Tact.* 2.7; *Arr.*, *Tact.* 9, 14.

2. The process of ‘doubling’, which is covered in [Chapter 28](#), is where the half-files from the rear of the *lochos* move forward into the intervals between the forward half-files (i.e. taking the phalanx from sixteen to eight deep). If the interval between the forward half-files is not increased, the new formation will contain the same number of men, with the same frontage, but will be of only half its original depth. The process was one way to achieve a transition from an intermediate order to a close order (or from open order to intermediate order). Conversely, the process could be executed in reverse and a formation originally deployed eight-deep in close order could be opened into an intermediate order by having each alternate file of eight re-form behind the forward half-file (thus becoming the rear half-file and changing the phalanx from eight to sixteen deep).

3. In other words, 16,384 infantry, 8,192 light troops and 4,096 cavalry,

for a total of 28,672 men.

4. As such, any number that did not accommodate this sort of dividing process would result, during one of the sub-divisions, in an odd number of men left over or in a unit of a greater or lesser size than would allow for such a division to continue in a regular manner. Consequently, for the sake of mathematical (and possibly operational) ease, the phalanx should be, at least, based upon a smallest unit of two, which can then be incremented by simply merging two of each of the smaller units together to ultimately create a phalanx of 16,384 men. Obviously, it was not likely that this process was adhered to in its entirety due to the variables of war. Certainly, the Classical Greeks could not have adhered to this principle when their deployments of twenty-five and fifty deep are considered (although the common usage of a phalanx eight deep by the Classical Greeks may suggest otherwise). However, it does appear that the armies of the Hellenistic period were arranged in such a way. Appian (*Syriacus* 107B), for example, says that the army of Antiochus ‘contained a phalanx of 16,000 Macedonians [i.e. phalangites] drawn up in the manner adopted by Philip and Alexander. He placed the phalanx in the centre of his line and divided it into ten equal parts, with each having a frontage of fifty men and a depth of thirty-two men’ (see also Livy 33.4, 34.40). The even number of 16,000 used by both Appian and Livy is most likely to be a rounded figure. Interestingly, though, the missing 384 men of their numbers equates exactly with another twelve files drawn up thirty-two deep.

Chapter 9

- a. *K&R* 1855 = ὄνομα.
- b. This does not appear in *Rob* 1552 or *Arc* 1613.
- c. *K&R* 1855 = αὐνταγμα.
- d. *Arc* 1613 = τούτων.
- e. *Rob* 1552 = καθέκαστον.
- f. *K&R* 1855 = γὰρ.
- g. *K&R* 1855 = περιέχειν.
- h. This does not appear in *Arc* 1613.
- i. This does not appear in *Arc* 1613 or *K&R* 1855.
- j. This does not appear in *Rob* 1552 or *Arc* 1613.
- k. This does not appear in *Arc* 1613.
- l. This does not appear in *Arc* 1613.

- m. *K&R 1855* = τελάρχης.
- n. *K&R 1855* = μεραρχία.
- o. This does not appear in *K&R 1855*.
- p. This does not appear in *Rob 1552* or *K&R 1855*.
- q. This does not appear in *K&R 1855*.
- r. *Arc 1613* = ταξιάρχους.

1. See also Ascl., *Tact.* 2.8–10; Arr., *Tact.* 10.
2. The name of this officer implies the command of 500 men. This is, of course, a rounded number to fit the name of the officer.
3. *K&R 1855* uses the other term here: *merarchiae*.
4. Thus, according to Aelian, there would be 1,020 officers within the entire phalanx (not including the supernumeraries or the individual leaders of the files): 4 *phalangarchs*, 8 *merarchs*, 16 *chiliarchs*, 32 *pentakosiarchs*, 64 *syntagmatarchs*, 128 *taxiarchs*, 256 *tetrarchs*, and 512 *dilochitae*. One problem that Aelian does not provide an answer for is that, to possess such numbers, the phalanx has to have an uneven frontage with each of the officers positioned ahead of their respective units. This makes no tactical sense, as it would give the formation an uneven frontage and would leave senior officers exposed when two battle-lines met on the field (which is how it is depicted in the illustrations accompanying some earlier editions of the text). Within the smaller units of the phalanx, it seems more likely that a sub-unit commander's position was taken by a superior officer. For example, in the arrangement given in [Plate 3](#), the position of the *lochargos* on the right-hand side of the formation is taken by the *syntagmatarch* in command of the overall unit. As the scale of the unit increases, more and more positions on the far left and right side of units are occupied by increasingly superior officers. It can only be assumed that, in any unit greater than a *tetrarchia*, the superior officer would occupy either the left-hand or right hand position, and that the sub-unit commander would simply shift his location left or right accordingly, so as to take up a new position beside his immediate superior (with the possible exception of the *dilochites*). In effect, most of the individual *lochargo*i are replaced by superior officers. This results in the entire front rank being made up of officers of one kind or another. This was a practice of ancient Greek warfare that went back at least to the Archaic Age and continued through the Classical period (where even Spartan kings held a specific position in the front rank) and into the Hellenistic period (see

hom., *Il.* 4.297–300; Xen., *cyr.* 2.3.22, 6.3.25; *Mem.* 3.1.7–8; *Lac.* 11.5, 13.6; Arr., *Tact.* 12). However, the positioning of officers in these earlier periods seems not to have followed so complex a mathematical model as Aelian outlines in the next chapter.

Chapter 10

- a. This does not appear in *K&R 1855*.
- b. This does not appear in *Rob 1552* or *Arc 1613*.
- c. *K&R 1855* = ἐπὶ τῆς εὐωνύμου.
- d. *K&R 1855* = τὴν δὲ τετάρτην καὶ τρίτην.
- e. This does not appear in *Arc 1613*.
- f. *K&R 1855* = τετάρτην.
- g. *Arc 1613* = οὕτως.
- h. This does not appear in *Arc 1613*.
- i. *Arc 1613* = ἐπὶ.

- 1. See also Ascl., *Tact.* 3.1–6.
- 2. Diodorus (17.34.1) similarly states that the officers of each unit are positioned at the head of their men.
- 3. In other words, there are two ‘average’ officers in command of the two *phalangarchiae* on the left wing, while the best commander and the most inexperienced commander hold the two units on the right wing. Thus, any deficiency in the command skills of the officer leading the fourth *phalangarchia* is offset by the superior abilities of the lead *phalangarch* commanding the unit next to him. This, in effect, means that both wings have a relatively equal, albeit average, level of command.
- 4. Here, Aelian outlines only the position for four of the *merarchs*. However, in [Chapter 9](#), he states that there were eight *merarchs* in all. Later in [Chapter 10](#), Aelian outlines how the positioning of the officers was based upon a mathematical balance. As such, the position of these remaining *merarchs* can be determined by simply following this formula. Each officer is given a ‘command value’ based upon his rank (i.e the first ranked officer has a value of 1, the second officer has a value of 2, and so on). Based upon this principle, and Aelian’s description for the positioning of the *phalangarchs* and the first four *merarchs*, the command value of the first *phalangarchia* equals 2, the second *phalangarchia* equals 4, the third *phalangarchia* equals 6, and the fourth *phalangarchia* equals 8. If the remaining officers (ranked fifth to eighth) are distributed following the same principle as the others (i.e.

placing the most senior in the first *phalangarchia*, the next in the second *phalangarchia*, etc.) then the 'command value' of the first *phalangarchia* equals 7 ($1 + 1 + 5$), the second *phalangarchia* equals 10 ($2 + 2 + 6$), the third *phalangarchia* equals 13 ($3 + 3 + 7$), and the fourth *phalangarchia* equals 16 ($4 + 4 + 8$). While this does not create an equal balance of command between the individual *merarchia*, it does result in a balance of command on each wing, with the 'command value' of all officers on each wing equalling 23. The most likely position for these remaining four *merarchs* is in the units that do not have a *merarch* already assigned to them. However, as each of these units already contains a *phalangarch*, the most likely position for the *merarchs* is at the head of the file on the opposite side of the unit from the *phalangarch*. This is the arrangement given in [figure 3](#).

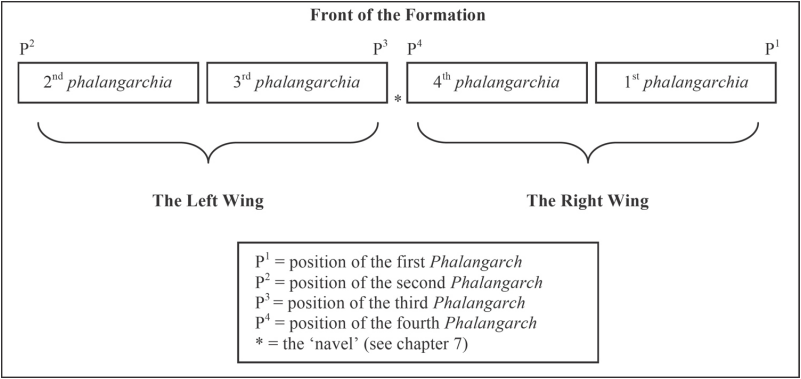


Figure 2: The position of the *phalangarchs* across the front of a phalanx.

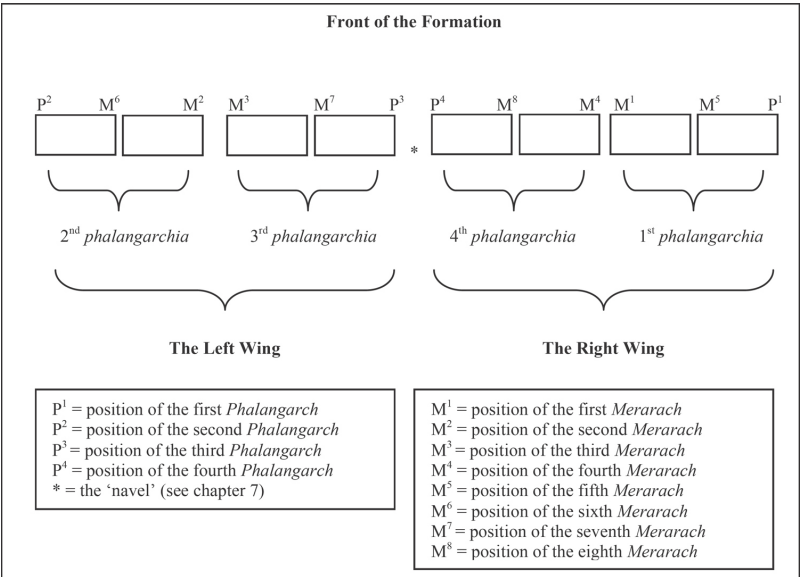


Figure 3: The position of the *merarchs* across the front of a phalanx.

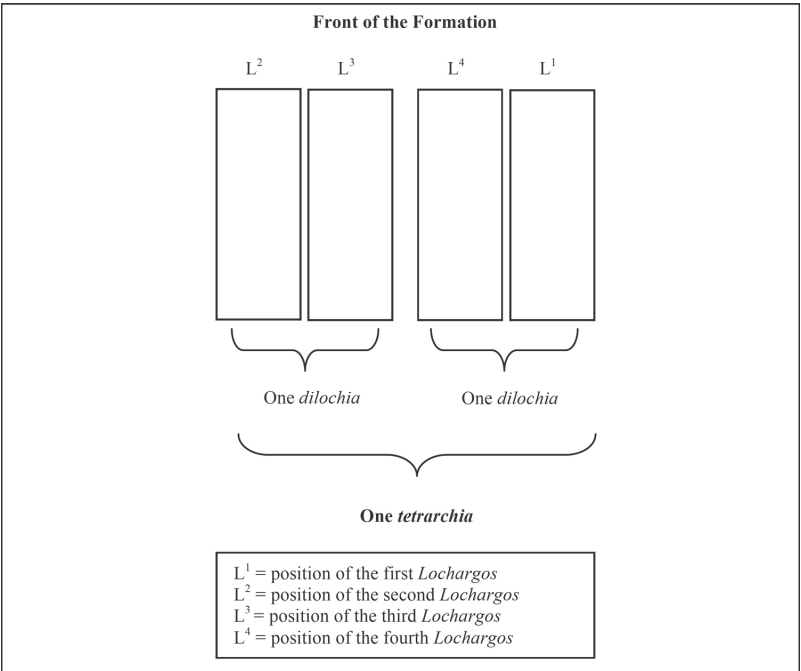


Figure 4: The position of the *lochargoi* across the front of a *tetrarchia*.

5. Aelian now reduces the scale of his examination of the placement of officers by several factors to concentrate on the smallest sub-units of the phalanx (the files of the *tetrarchia* and the *dilochia*). However, the positioning of officers within these smaller sub-units still follows the same principles.

Chapter 11

- a. *K&R 1855* = πυκνώσης.
 - b. *K&R 1855* = τοὔτ' ἔστι.
 - c. *K&R 1855* = ἔτι δέχεσθαι.
 - d. This does not appear in *K&R 1855*.
 - e. This does not appear in *Arc 1613*.
 - f. *K&R 1855* = ἐπάγειν.
 - g. This does not appear in *Arc 1613*.
 - h. *K&R 1855* = πεφραγμένους.
 - i. This does not appear in *Arc 1613*.
 - j. *K&R 1855* = τετραχίλιοι.
 - k. *K&R 1855* = τοὔτ' ἔστι.
1. See also Ascl., *Tact.* 4.1–4; Arr., *Tact.* 12.
2. Aelian does not outline what this situation may be. However, it is most likely that an open-order was only used when an army was on the march and no immediate threat was in evidence.
3. By the Hellenistic period, most of the Greek world used a system of measurements that incorporated a cubit of 48cm. Such a system had been used in the Peloponnese for quite some time and was later adopted by the Athenians for the construction of the Parthenon around 447 BC; see W.B. Dinsmoor, 'The basis of Greek temple design in Asia Minor, Greece and Italy', *Atti VII Congresso Internazionale di Archeologia Classica* I (Rome, 1961), pp. 358–361. It is most likely that this system of measurements was imposed by Athens on all of the member states of the Delian League some time after 445 BC as part of the 'coinage decree', which converted all of Athens' allies onto the one standard of coins, weights and measures (*IG* I³ 1453; *M&L* 45, clause 12; see also H.B. Mattingly, 'The Athenian Coinage Decree', *Historia* 10, 1961, pp. 148–188; 'Epigraphy and the Athenian Empire', *Historia* 41, 1992, pp. 129–138; 'new light on the Athenian Standards Decree', *Klio* 75, 1993, pp. 99–102).

4. In these opening sentences, Aelian discusses the different intervals that could be used in the deployments of the various infantry that could be found within an army (hoplites, phalangites and psiloi; see [Chapter 2](#)). However, it is important to note that not all of the different infantry types could be accommodated by each of the different intervals. Slingers, for example, require a certain amount of room to use their weapons and can only have been deployed in an open-order at best. Javelineers and archers, requiring less room to use their weapons, could be deployed as tightly as the intermediate-order yet still have enough room to discharge their missiles. Phalangites could be easily accommodated by either the open or intermediate-order interval. However, numerous ancient writers state that the pikes held by the front few ranks projected between the files and beyond the front of the line (see [Chapter 14](#)). This positioning of the weapons between the files, and the small diameter of their shield, makes it impossible for phalangites to stand in the 48cm interval of the close-order formation and create a line with ‘interlocked shields’ (or ‘with shields brought together’ as the term *synaspismos* can be translated), while keeping the shield in a protective position across the front of the body and the weapons poised for combat. It appears that phalangites only adopted the close-order to undertake such manœuvres as wheeling, which required their pikes to be carried vertically (see [Chapter 31](#)). Some scholars have come up with different theories and models for how a file of phalangites may have stood in order to fit into a close-order interval and still engage in combat with the men standing almost side-on; for example, see J. Warry, *Warfare in the Classical World* (Norman: University of Oklahoma Press, 1980), pp. 72–73. Such models seem incorrect as they do not conform with the terminology (in that the shields of the phalangites are neither ‘interlocked’ nor are they ‘brought together’), the shield is removed from its protective position across the front of the body, and/or the phalangite is contorted into a position that would make the effective use of his weapon all but impossible. It is only the larger shield (*aspis*) carried by the Greek hoplite that will allow for the creation of an interlocked ‘shield wall’ that could be used in combat. When standing in a close-order interval of 48cm per man, the 90cm-diameter *aspis* extends to either side of the hoplite and overlaps with those being carried by the men beside him. This did not inhibit the use of the hoplite spear, which was held in a couched position, tucked

into the armpit and extending over the rim of the shield; see C.A. Matthew, 'When Push Comes to Shove: What was the *Othismos* of Hoplite Combat?' *Historia* 58.4 (2009), pp. 395–415. It is also interesting to note that the root of the terminology used to describe this formation is the word *aspis* rather than the word *peltē*, further suggesting its correlation with troops armed as hoplites. Diodorus (16.3.2) states that one of the reforms of the Macedonian army made by Philip in 360 BC was the adoption of the close-order formation in imitation of earlier Greek formations. Due to the limitations imposed by the phalangite's panoply, it is most likely that the descriptions by authors such as Aelian and Diodorus for the use of a close-order interval by Hellenistic armies for combat should only be applied to troops armed as classical hoplites rather than as phalangites.

5. A *stadion* was another Greek unit of measure equal to 600 Greek feet. A Greek foot equaled $\frac{2}{3}$ of a cubit, or 32cm. Thus, one *stadion* equalled 192m. The *stadion* was also the distance between the start and finish lines in the stadiums where the great pan-Hellenic games were held, hence its name. At Olympia, this distance is 191m, evidence for the use of a unit of measure incorporating a 48cm cubit, in the Peloponnese at least (this system of measurement is often referred to as the Olympic or Peloponnesian Standard). Further evidence for the use of this unit of measure by Hellenistic armies comes from the recordings of distance taken by the *bematists* who accompanied the army of Alexander the Great. The *bematists* were professional surveyors, taught to walk with a regular, measured step so that distances could be accurately recorded. Many of the measurements taken by Alexander's *bematists* were later recounted by Pliny (*HN* 6.61–62) and Strabo (11.8.9). Strabo, for example, recounts that the distance measured by the *bematists* between Alexandria Arieon (modern Herat in north-western Afghanistan) and Prophthasia (modern Juwain in south-west Afghanistan) was 1,600 stades (or 307km, if converted into the Peloponnesian Standard). The actual distance between these two locations is 304km, yet further proof of the use of the 48cm cubit, this time in direct connection with Alexander's army. Aelian's figure of 10 *stadia* and 96 cubits for the size of a formation deployed in open-order calculates to 1,968m, and so is just outside of the other given size of 4,096 cubits (1,966m).

- a. *K&R 1855* = ἔσται.
- b. This does not appear in *Rob 1552* or *Arc 1613*.
- c. *K&R 1855* = ὀκταπήχους.
- d. *K&R 1855* = μέχρι.

1. See also Ascl., *Tact.* 5.1–2; Arr., *Tact.* 12.
2. Here Aelian uses the term *aspis*, the name of the shield of the Classical hoplite, rather than the name of the smaller Macedonian shield used by the phalangite (*peltē*), as an umbrella term simply meaning ‘shield’. The archaeological evidence for the Hellenistic shield (*peltē*) shows that they were fashioned from a wooden core that was faced with a thin layer of bronze. The literary sources also speak of shields covered with gold and silver depending upon the unit that the bearer belonged to. Others seem to have been painted white. The shield had a central armband (*porpax*, πόρπαξ) through which the left forearm was inserted up to the elbow, a strap that went around the left wrist, and a shoulder strap (*telamon*, τελαμών) to help support some of its weight. The small diameter of the shield allowed the left hand, which was not used to carry the shield, to extend beyond the rim, so that it could be used to wield the weighty *sarissa*, which was held in both hands.
3. The smallest unit of measure in the ancient Greek world was the *daktylos* (δάκτυλος), a unit representing the thickness of a finger, or 2cm (Hdt. 1.60; AP 12.50). Four *daktyloi* made a palm (*palastē*, παλαστή). Herodotus (2.149) states that a foot (*pous*, πούς) equalled four palms, and a cubit equalled six palms. Thus, the phalangite shield was around 64cm in diameter and, as Aelian says, not too concave. This is borne out through the archaeological evidence. A terracotta mould used to create the metallic covering for the shields of a Ptolemaic army (3rd century BC), now in the Allard Pierson Museum in Amsterdam, measures 70cm in diameter. However, this mould creates a covering large enough to have its edges folded over the wooden core of a shield of around 64cm in diameter. Similarly, the covering of a Hellenistic shield found at Pergamon measures 63cm in diameter; see K. Liampi, *Der makedonische schild* (Bonn: Rudolf Habelt, 1998), pp. 59–61, pl.5.
4. As with his examination of the shield in this chapter, here Aelian uses the term *doru*, the name of the spear carried by the Classical hoplite, rather than the term for the Macedonian pike (*sarissa*). In [Chapter 14](#), Aelian outlines what he says is the ‘proper size of the *sarissa*’, originally 16 cubits (768cm) in length, but later reduced to 14 cubits (672cm).

Devine finds similarities with the terminology used by Asclepiodotus (5.1), in which he states that the pike (which he also calls the *doru*) should be ‘no shorter than 10 cubits, so that the part that projects forward of the line is no less than 8 cubits. In no case, however, is the weapon longer than 12 cubits so as to project 10 cubits’ (δόρυ δὲ αὐτὸ οὐκ ἔλαττον δεκαπήχεος, ὥστε τὸ προπίπτον αὐτοῦ εἶναι οὐκ ἔλαττον ἢ ὀκτάπηκυ) and the terminology used by Aelian (δόρυ δὲ μὴ ἔλαττον ὀκταπήχους). Devine suggests that a central passage, equivalent to the passage of Asclepiodotus underlined above, is missing from Aelian’s text (see A.M. Devine, ‘The Short Sarissa: Tactical reality or scribal error’, *AHB* 8.4 (1994), p. 132). Devine concludes that both Asclepiodotus and Aelian are saying fundamentally the same thing: ‘the spear [i.e. *sarissa*] is not less than 10 cubits long and extends beyond the rank not less than 8 cubits’. Numerous other ancient writers provide details of the varying lengths of the *sarissa* throughout the Hellenistic period. Besides Asclepiodotus (above), Theophrastus (*Caus. pl.* 3.12) also details a 12-cubit weapon in use in the early Hellenistic period. Polyaeus (*Strat.* 2.29.2) describes a weapon 16 cubits in length used by the garrison of Edessa in 300 BC, and Polybius (18.29) echoes Aelian’s [Chapter 14](#) by stating that the weapons of the mid-late Hellenistic period had been 16 cubits in length, while the weapons used in his time (c. 168 BC) had been reduced to 14 cubits. As such, it appears that Aelian is referring to the length of the *sarissa* at three different points across the Hellenistic period: the 10- or 12-cubit weapon of the early Hellenistic period in [Chapter 12](#); the 16-cubit weapon of the mid-Hellenistic period in [Chapter 14](#); and the 14-cubit weapon of the late Hellenistic period, also in [Chapter 14](#).

Chapter 13

- a. This does not appear in *Rob 1552* or *Arc 1613*.
- b. *K&R 1855* = στομώματι.
- c. *K&R 1855* = στόμωμα.
- d. *K&R 1855* = νότου.
- e. *Arc 1613* = καὶ.
- f. This does not appear in *Rob 1552* or *Arc 1613*.
- g. *K&R 1855* = παρεφεδρεύει.
- h. *K&R 1855* = πολέμοις.
- i. *K&R 1855* = λόγου προσλεκτέον, ἧ.

1. See also Arr., *Tact.* 12.
2. The ‘edge’ [*parataxis*, παράταξις] is one of the names for the front rank outlined by Aelian in [Chapter 7](#).
3. According to Polybius (18.29), the *sarissae* of the first five ranks of the formation projected between the files and beyond the shields borne by the front rank. However, in the confines of the phalanx, it is unlikely that the men in ranks three, four and five would have had enough room to thrust their weapons forward enough to cover the distance to an enemy pressed against the tips of the front rank’s weapons. Consequently, it may only have been the weapons of the first two ranks that reached the enemy and so constituted the ‘cutting edge’ of the formation. This was a feature that also existed in the formations of Greek hoplites during the Classical period; see C. Matthew, ‘The Continuing Reappraisal of Hoplite Warfare’, *NZACT Bulletin* 35.2 (2008), pp. 71–80; ‘When Push Comes to Shove: What was the *Othismos* of Hoplite Combat?’, *Historia* 58.4 (2009), pp. 395–415.
4. This, presumably, does not apply to the file-closing *ouragos*, the officer at the rear of the file.

Chapter 14

- a. *K&R 1855* = ἴστατο.
- b. This does not appear in *Arc 1613* or *K&R 1855*.
- c. *K&R 1855* = σαρισῶν.
- d. *K&R 1855* = ἀφαιρεῖ.
- e. *K&R 1855* = λοιποὶ.
- f. *K&R 1855* = ἐν.
- g. This does not appear in *Arc 1613* or *K&R 1855*.
- h. *K&R 1855* = ὑπεράιρουσι.
- i. *K&R 1855* = σαρίσας τὸ πρῶτον ζυγὸν.
- j. *K&R 1855* = σάρισαι.
- k. This does not appear in *K&R 1855*.
- l. This does not appear in *K&R 1855*.
- m. *K&R 1855* = σαρίσαις; this does not appear in *Arc 1613*.
- n. *K&R 1855* = πέντε.
- o. This does not appear in *Arc 1613*.
- p. *K&R 1855* = πάρεστι σκοπεῖν.
- q. This does not appear in *Rob 1552* or *Arc 1613*.
- r. *K&R 1855* = σαρίσαις.

- s. *Rob* 1552 = τούτου.
- t. *K&R* 1855 = ἀκμὰς.
- u. *K&R* 1855 = κελεύων.
- v. *K&R* 1855 = δὲ.
- w. *K&R* 1855 = ἀναγκάσει.
- x. This does not appear in *K&R* 1855.

1. See also Ascl., *Tact.* 5.1–2; Arr., *Tact.* 12.
2. Polyaeus (*Excerpts* 18.4), for example, describes the Hellenistic phalanx as an ‘invincible beast’. According to Plutarch (*Aem.* 19), at the battle of Pydna in 168 BC, the Roman commander Aemilius Paulus ‘had never seen a more fearful sight’ than a Hellenistic phalanx marching against him. Plutarch also describes the phalanx as ‘a dense barrier of pikes that is everywhere unassailable’ (*Aem.* 20; cf. *Pyrr.* 21) and describes how Alexander’s line at Gaugamela ‘rolled forward like a flood’ (*Alex.* 33). Likewise Livy (44.41) says that ‘the phalanx is irresistible when it is closely packed and bristling with extended pikes’ (see also Front., *Strat.* 2.2.1; Asclep., *Tact.* 5.1; Curt. 3.2.10–16). Arrian (*Tact.* 12) states that the phalanx looked fearsome even when standing still and not just when it was in action. Diodorus (17.4.4) simply describes a phalanx as a formation that ‘causes concern’ (κατάπληξις).
3. See [Chapter 11](#).
4. This passage of Aelian is almost identical to the description of the weapons of the mid- and late Hellenistic period found in Polybius (18.29), and is most likely the source for it. As such, despite the claim in his introduction that the book contains ‘Alexander of Macedon’s manner of marshalling his army’, and his probable references to the 10- or 12-cubit long weapons of the early Hellenistic period in [Chapter 12](#), Aelian is clearly incorporating information on the mid- and late Hellenistic period as well. It is also clear that Aelian has not copied Polybius’ entire passage verbatim, as the information contained in the next sentence in the work of both authors does not agree (see notes 5 and 6).
5. Asclepiodotus (5.1) also says that the pike was held by the rearward 2 cubits. However, Polybius (18.29) says that the weapon was held by the last 4 cubits, so that a 14-cubit weapon would project 10 cubits forward of the bearer. Arrian (*Tact.* 12) says that the *sarissa* ‘approached’ 16 Greek feet (512cm, or just under 11 cubits) in length (τῶν σαριστῶν πόδας ἐπέχεν ἑκκαίδεκα). Of this length, Arrian says that 4 Greek

feet (128cm, or just under 3 cubits) were taken up with the grip, so that the weapon extended 12 feet (384cm or 8 cubits) beyond the bearer (καὶ τούτων οἱ μὲν τέσσαρες ἐς τὴν χεῖρά τε τοῦκατέχοντος καὶ τὸ ἄλλο σῶμα ἀπετείνοντο, οἱ δῶδκα δὲ προεῖχον πρὸ τῶν σωμάτων ἐκάστου τῶν πρωτοστατῶν).

6. Arrian (*Tact.* 12) says that the weapons of the first six ranks project beyond the front of the line. However, Polybius (18.29) says only the first five ranks have their weapons levelled for action. Asclepiodotus (5.1) also says that only the weapons of the first five ranks are projected forward. However, his calculations are based upon the use of a shorter (12-cubit) weapon than Aelian's. How Arrian was able to correlate the even shorter weapons of the first six ranks extending ahead of the formation is not stated. The difference between Aelian and Polybius can only be due to Polybius assuming that 4 cubits of the weapon is taken up with the grip, whereas Aelian states that the grip took up only 2 cubits. This would account for the ability of the weapons of the sixth rank to project beyond the front of the formation.
7. Polybius (18.29) says these men held their weapons angled upwards and forwards over the heads of the men in the front ranks, both in preparation to lower them for action should the man ahead of them fall, and to provide a means of disrupting volleys of missiles that might be fired at the formation so as to provide a certain level of protection.
8. The 'pushing' (or *othismos*) of ancient Greek warfare has been a much debated topic for decades. However, it appears that a physical pushing action by the rear ranks only occurred under certain conditions on the battlefield; see C.A. Matthew, 'When Push Comes to Shove: What was the *Othismos* of Hoplite Combat?', *Historia* 58.4 (2009), pp. 395–415. The 'push' that Aelian mentions here is more likely to be taken figuratively: either a 'bracing' of the forward lines by the rearward ranks if the formation was operating defensively, or in a supportive role if the formation was advancing into the attack, rather than the act of physically driving the front ranks forward by pushing them in the back. It is unlikely, if the 'push' was a more tactile action, that pressing into the back of the man in front would not inhibit his movements and so limit his combat effectiveness. This suggests a more metaphorical 'push' than a literal one.
9. Polyaeus (*Excerpts* 18.8) says, 'the form of the phalanx ought to be deployed as follows: let the spears of the first, second and third ranks

be proportionate according to their rank within the phalanx so as for all of their heads to present an even front'. However, it is uncertain whether this passage should be attributed to a Greek, Macedonian or later formation of spearmen; and there is no reference to a historical individual or event to place the passage in its correct context. Regardless, it is unlikely that this was ever a practiced battlefield precedent, as it would pose all sorts of logistical and operational problems within the phalanx (or any other formation). For example, should a man in the front rank fall, and the man in the second rank move forward to replace him, as the replacement was carrying a longer weapon, the front of the line would instantly become uneven. This suggests that all members of the phalanx carried a weapon of the same length. As Hammond points out, the close formation and the manoeuvrability of the Macedonian phalanx depended upon the standardization of weapons and equipment; see N.G.L. Hammond, 'A Macedonian Shield and Macedonian Measures', *ABSA* 91 (1996), pp. 365–367.

Chapter 15

- a. *Arc 1613* = ὅταν; *K&R 1855* = ὅτε.
 - b. *Rob 1552* = ὀπίσω; this does not appear in *K&R 1855*.
 - c. This does not appear in *Rob 1552* or *Arc 1613*.
 - d. *K&R 1855* = χίλιοι.
 - e. *K&R 1855* = τοῖς.
 - f. *Rob 1552* = τῶν.
 - g. This does not appear in *Arc 1613*.
 - h. *K&R 1855* = αἱ.
 - i. This does not appear in *Arc 1613*.
 - j. *K&R 1855* = ἀλλ'; *Arc 1613* = εἶναι δεῖ ἀλλὰ τοὺς.
 - k. *K&R 1855* = ἡμίσει.
 - l. *K&R 1855* = χίλιοι.
 - m. *K&R 1855* = ὀκταχίλιοι.
1. See also Ascl., *Tact.* 6.1; Arr., *Tact.* 13.
 2. For the number of light troops compared to the number of armed infantry, see [Chapter 5](#). For the reasons behind the need for a reduced depth of rearwardly positioned light troops, see [Chapter 4](#), note 3.

Chapter 16

- a. *K&R 1855* = αλοῦνται.
- b. *K&R 1855* = νδρες.
- c. This does not appear in *Rob 1552* or *Arc 1613*.
- d. This does not appear in *Rob 1552* or *Arc 1613*.
- e. This does not appear in *Rob 1552* or *Arc 1613*.
- f. This does not appear in *Arc 1613*.
- g. *Arc 1613* = δύ.
- h. This does not appear in *Rob 1552*.
- i. *K&R 1855* = ἐνενήκοντα.
- j. *Arc 1613* = δύο.
- k. *K&R 1855* = ἐνενήκοντα.
- l. *K&R 1855* = νδρες.
- m. *Rob 1552* = τέσσαρων.

1. See also Ascl., *Tact.* 6.3; Arr., *Tact.* 14.
2. Sixtus Arcerius, who translated an edition of Aelian in 1613, uses the word *systema* instead of *systemma*. However, Robertellus, who released a translation of Aelian based upon three separate Greek manuscripts in Venice in 1515, uses the word *systemma*. The word comes from the Greek term *systrepho* [συστρέφω] meaning ‘to gather together’. Here it is used to refer to the arrangement of a body of men.
3. In many ways, the arrangement of the light-armed bears a certain resemblance to the arrangement of the armed infantry:

Armed Infantry	Light Infantry	Number of Files
One <i>tetrachia</i>	One <i>systasis</i>	4
One <i>taxis</i>	One <i>pentacontarchia</i>	8
One <i>syntagma</i>	One <i>hecatontarchia</i>	16
One <i>pentacosarchia</i>	One <i>psilagia</i>	32
One <i>chiliarchia</i>	One <i>xenagia</i>	64
One <i>merarchia</i>	One <i>systemma</i>	128
One <i>phalangarchia</i>	One <i>epixenagia</i>	256
One <i>diphalangarchia</i>	One <i>stichos</i>	512
One <i>tetraphalangarchia</i>	One <i>epitagma</i>	1,024

Chapter 17

- a. This does not appear in *Arc 1613*.
- b. *K&R 1855* = ἀποχωρεῖν.
- c. *K&R 1855* = οὔτοι.
- d. This does not appear in *Rob 1552* or *Arc 1613*.

1. See also Arr., *Tact.* 15.
2. In this passage, Aelian outlines many of the uses of lightly armed infantry. By provoking the enemy with missile fire, light troops could draw armies led by inexperienced commanders onto unfavourable ground, into concealed kill zones, or into areas of ambush. Once an opponent was so engaged, the light troops could be used in a number of supporting roles including flank attacks against the vulnerable sides and rear of a phalanx or the pursuit of a routed enemy. The lightly equipped skirmishers could easily chase down a more heavily encumbered infantryman. During the battles of the Classical period, a winning side could expect to lose about five per cent of their men. A losing side, on the other hand, could lose as much as forty per cent of their number. Many of these casualties were sustained during the rout, when the fleeing heavy infantry were pursued and massacred by cavalry and light troops; see P. Krentz, 'Casualties in Hoplite Battles', *GRBS* 26 (1985), pp. 13–20.

Chapter 18

- a. *K&R* 1855 = $\pi\rho\delta$.
- b. *K&R* 1855 = $\omega\varsigma$ $\phi\alpha\sigma\iota$.
- c. *K&R* 1855 = $\pi\lambda\acute{\alpha}\gamma\iota\omicron\nu$.
- d. This does not appear in *Rob* 1552 or *Arc* 1613.
- e. *Arc* 1613 = $\delta\acute{\iota}\pi\epsilon\upsilon\sigma\iota\nu$.
- f. *K&R* 1855 = η .
- g. This does not appear in *Arc* 1613.
- h. *K&R* 1855 = $\epsilon\iota\varsigma$ $\pi\omicron\lambda\lambda\acute{\alpha}$.
- i. This does not appear in *Arc* 1613.
- j. *K&R* 1855 = $\tau\epsilon$ $\omicron\upsilon\tau\omega$.
- k. *Rob* 1552 = $\acute{\alpha}\theta\rho\acute{o}\upsilon\varsigma$.
- l. *K&R* 1855 = $\tau\acute{\omega}\nu$.
- m. This does not appear in *Rob* 1552 or *Arc* 1613.
- n. This does not appear in *Rob* 1552 or *Arc* 1613.
- o. *Rob* 1552 = $\zeta\upsilon\gamma\omicron\upsilon\varsigma$.
- p. *K&R* 1855 = $\acute{\iota}\pi\pi\omega\nu$.
- q. This does not appear in *Rob* 1552 or *Arc* 1613.
- r. This does not appear in *Arc* 1613 or *K&R* 1855.
- s. This does not appear in *K&R* 1855.
- t. This does not appear in *Rob* 1552 or *Arc* 1613.

u. This does not appear in *K&R 1855*.

v. *K&R 1855* = εἴληψ.

1. See also Ascl., *Tact.* 7.1–4; Arr., *Tact.* 16.

2. For example, see Ascl., *Tact.* 7.1–10; Arr., *Tact.* 12.

3. Jason of Pherae was a Thessalian ruler of the early 4th century BC. Justin (7.6.8) tells us that one of the reasons why Philip of Macedon invaded Thessaly was to gain access to the Thessalian cavalry. According to Plutarch (*Alex.* 24), Alexander the Great found them to be very effective. Plutarch also says (*Pyrrh.* 17) that the Romans were unable to withstand a charge of Thessalian horse. The Spartan king Agesilaus thought it a great achievement to have defeated Thessalian cavalry with his own (Plut., *Ages.* 16). Polybius (4.8) says that the Thessalian horsemen were irresistible when charging in formation, but that they had neither the inclination nor the courage for single combat. The rhombus is something of a diamond shape with corners that can be formed at any angle. (See Plates 7 and 10.)

4. Presumably, the *ouragos* was still at the rear of the formation while the troop commander was most likely positioned in the centre of the front rank with the two flank-guards in command of the file on either wing.

5. See [Chapter 14](#) note 7.

6. It is unlikely that many of these things regularly happened in infantry formations either. See [Chapter 14](#) note 7.

Chapter 19

a. *K&R 1855* = εἰλάρχου.

b. *K&R 1855* = εἰλάρχη.

c. This does not appear in *K&R 1855*.

d. *K&R 1855* = εἰλάρχου.

e. *Rob 1552* and *Arc 1613* = ἐκ δεξιῶν.

f. This does not appear in *Arc 1613*.

g. This does not appear in *K&R 1855*.

h. *Arc 1613* = τραύμα.

i. *Arc 1613* = μὲν.

j. *K&R 1855* = ζυγεῖν καὶ στοιχεῖν.

k. This does not appear in *Rob 1552* or *Arc 1613*.

l. *K&R 1855* = οὐκέτι δὲ στοιχεῖν.

m. *K&R 1855* = ζυγεῖν καὶ στοιχεῖν.

n. *Rob 1552* = τὸν.

- o. *K&R 1855* = εἴλη ζυγῶν.
- p. *K&R 1855* = οἶον ἑνδεκα ἢ τρεισκαίδεκα ἢ πεντεκαίδεκα.
- q. *K&R 1855* = δ'.
- r. *K&R 1855* = εἴη πεντεκαίδεκα.
- s. *K&R 1855* = ἀνά τρεισκαίδεκα.
- t. *K&R 1855* = εἶναι.
- u. This does not appear in *Rob 1552* or *Arc 1613*.
- v. This does not appear in *Arc 1613*.
- w. *K&R 1855* = αὐτὸν.
- x. This does not appear in *Arc 1613*.
- y. This does not appear in *Rob 1552* or *Arc 1613*.
- z. *K&R 1855* = εἰλάρχην.
- aa. *K&R 1855* = εἰλάρχου.
- ab. *Rob 1552* = ἵν ὥς.
- ac. *K&R 1855* = τούτων τῶν ἵππων κατὰ.
- ad. *K&R 1855* = τῷ προτεταγμένῳ ἵππῳ τυγχάνωσι.
- ae. *K&R 1855* = περιττῶν τὸν ἀριθμὸν.
- af. *K&R 1855* = εἰλάρχου.
- ag. This does not appear in *Arc 1613*.
- ah. This does not appear in *K&R 1855*.
- ai. *Arc 1613* = ὅσανει.
- aj. *K&R 1855* = ποιεῖν.
- ak. *K&R 1855* = εἴλη.
- al. This does not appear in *K&R 1855*.
- am. This does not appear in *Rob 1552* or *Arc 1613*.
- an. *K&R 1855* = ἐνὸς.
- ao. *K&R 1855* = ὥστε.
- ap. This does not appear in *Rob 1552* or *Arc 1613*.
- aq. *K&R 1855* = παραστάντος.
- ar. *K&R 1855* = ἐν.
- as. *K&R 1855* = ἔτι ἐν τοῖς.
- at. *K&R 1855* = οὕτως.
- au. *K&R 1855* = ἐν τοῖς.
- av. *K&R 1855* = οὕτως.
- aw. This does not appear in *Arc 1613*.
- ax. This does not appear in *Rob 1552*.
- ay. *K&R 1855* = εἴλη.
- az. *K&R 1855* = εἴλης καὶ.

ba. This does not appear in *Arc 1613*.

bb. *Arc 1613* = τὰ μέσα.

1. See also Ascl., *Tact.* 7.5–9; Arr., *Tact.* 17.

2. For the rhombus with both ranks and files, see [Plate 7](#).

3. From the different ways that the rhombus could be formed, it seems clear that it could be made up of any number of men and horses in formation. The largest formation that Aelian describes is of 113 horsemen. However, it is hard to imagine what effect such a formation would have against a line of well-ordered infantry (especially if they were pikemen). In [Chapter 8](#), Aelian outlines how an entire phalanx would be accompanied by 4,096 cavalry. It is thus easy to imagine that a cavalry charge would be conducted by a number of such formations, possibly across an extended frontage, all hitting a specific target simultaneously. In other instances, smaller cavalry formations may have been used individually to harass the sides and rear of enemy formations, with a steady stream of troops hitting the enemy line one after the other.

4. in other words, a wedge was merely one half of a rhombus that used the largest central line as its base.

5. This is more like the shape and configuration of the wedge rather than the rhombus.

6. In [Plate 8](#), the wedge formation (which is half of a rhombus) is configured with ranks but not files.

Chapter 20

a. *Arc 1613* = πρὸς.

b. This does not appear in *Arc 1613*.

c. This does not appear in *Arc 1613*.

d. This does not appear in *K&R 1855*.

e. This does not appear in *Rob 1552* or *K&R 1855*.

f. *K&R 1855* = ζυφῶ.

g. This does not appear in *Arc 1613*.

h. *K&R 1855* = εἶλαι ἐπειλαρχία.

i. *K&R 1855* = τετραχίλιοι καὶ ἐνενήκοντα ἑξ.

1. See also Ascl., *Tact.* 7.1, 10; Arr., *Tact.* 18.

2. It is clear that here Aelian is discussing a wedge rather than a rhombus or a square formation.

3. See [Chapter 19](#) note 1. It appears that each *syntagma* of infantry had a contingent of cavalry attached to it. Whether these formations of horsemen deployed equally along the line, in association with their respective infantry, or in separate groups to operate independently, was at the discretion of the commander and due to the tactical requirements of the situation.
4. On the Tarantine horsemen, see [Chapter 2](#) note 6.
5. In [Chapter 9](#), this term is also given as the occasional name given to a *merarchia* of armed infantry of 2,048 men arranged in 128 files. Here, in relation to cavalry, it applies to a completely different number of men.
6. This is also the term used to describe the whole body of light infantry that was attached to the phalanx.

Chapter 21

- a. *K&R 1855* = συντάξεις.
- b. *K&R 1855* = ειλῶν.
- c. *Rob 1552* and *K&R 1855* = περὶ μὲν.
- d. This does not appear in *Rob 1552* or *Arc 1613*.
- e. *K&R 1855* = εἶλας.

1. See [Chapters 18–20](#).

Chapter 22

- a. *Arc 1613* = ζευκτικῆς; *K&R 1855* = ζευκτοῖς.
- b. *K&R 1855* = ἄρμασιν.
- c. *Rob 1552* = δρεπανοφόρα; *Arc 1613* = δραπανοφόρα.
- d. *Arc 1613* = ἐλεφανταρχία.
- e. This does not appear in *Arc 1613*.
- f. This does not appear in *Rob 1552* or *Arc 1613*.

1. See also Ascl., *Tact.* 8.1–9.1; Arr., *Tact.* 19.
2. In this chapter, we again see the number sixty-four as the basis of a study of one part of a Hellenistic army. It is clear that these units could be enlarged or reduced at the discretion of the commander and the availability of both animals and vehicles. At Raphia in 217 BC, for example, Ptolemy IV *Philopater* had seventy-three elephants in his army, while Antiochus III had 102 (Polybius 5.79). Chariots were generally not used by Hellenistic armies but were commonly used by foreign armies that opposed them. At Gaugamela in 331 BC, for example, the

Persian king Darius sent scythed chariots against the line of Macedonian heavy infantry forming the core of Alexander the Great's line (Arr., *Anab.* 3.14). Later, at the Hydaspes River in India in 326 BC, Alexander faced off against the Indian king Porus, who had both chariots and elephants in his army (Arr., *Anab.* 5.15; Diod. Sic. 17.87.2; Curt. 8.13.6).

Chapter 23

- a. *K&R* 1855 = τὸν.
- b. This does not appear in *Rob* 1552 or *Arc* 1613.
- c. *K&R* 1855 = παραγγέλλῃ γενέσθαι τι.
- d. *K&R* 1855 = ῥαδίως.
- e. *Rob* 1552 = μέντοι; this does not appear in *Arc* 1613.
- f. This does not appear in *Rob* 1552 or *Arc* 1613.
- g. This does not appear in *Rob* 1552 or *Arc* 1613.
- h. *Arc* 1613 = ἐπ' ὀρθὸν; *K&R* 1855 = ἐς ὀρθὸν.
- i. This does not appear in *Rob* 1552 or *Arc* 1613.
- j. *K&R* 1855 = πρόσταξις.
- k. *K&R* 1855 = πρόταξις.
- l. *K&R* 1855 = συντόμων.
- m. This does not appear in *Arc* 1613.

- 1. See also Ascl., *Tact.* 10.1; Arr., *Tact.* 20.

Chapter 24

- a. *K&R* 1855 = στρέψαντος.
- b. *Arc* 1613 = τουτέστιν; *K&R* 1855 = τοῦτ' ἔστιν.
- c. *Arc* 1613 = τουτέστιν; *K&R* 1855 = τοῦτ' ἔστιν.
- d. This does not appear in *Arc* 1613.
- e. *Arc* 1613 = κατ'.
- f. This does not appear in *K&R* 1855.
- g. *K&R* 1855 = πυπυκνμένου.
- h. *K&R* 1855 = ἐπιστροφῇ.
- i. *Arc* 1613 = αποστροφῇ.
- j. *K&R* 1855 = ἐκάστω.
- k. This does not appear in *Rob* 1552 or *Arc* 1613.
- l. *Rob* 1552 = ἐστι.
- m. This does not appear in *Rob* 1552 or *Arc* 1613.

- 1. See also Ascl., *Tact.* 10.2–12; Arr., *Tact.* 21.

2. In other words, each change of facing is conducted by a turn of ninety degrees to either the left or right. If conducted in the same direction twice, the soldier will have turned through 180 degrees and will be facing in the opposite direction from his original position.
3. In other words, this is a complete 'about-face' through 180 degrees turning either left or right.
4. The 1814 edition by Augustus has this the other way around (i.e. turning to the shield away from the enemy and turning to the pike towards the enemy). Clearly this does not agree with the Greek.
5. Such circumstances would be when the formation was in close order, or when advancing in a more open order but with their pikes levelled.
6. That is, the leader of the left-hand file stands fast while the remainder of the formation wheels around using him as the pivot.
7. This would most likely be done by wheeling the formation back in the other direction. However, while this allows for the formation to face in its original direction, it would not necessarily be occupying the same position, as Aelian states, without a great deal of manoeuvring.
8. Thus, the formation turns through 270 degrees. Aelian does not elaborate why this would be conducted, when a simple wheel 90 degrees in the other direction would result in the same outcome.

Chapter 25

- a. This does not appear in *Rob 1552* or *Arc 1613*.
- b. *Rob 1552* = τὸ; *Arc 1613* = τὸ ἐπ'.
- c. *K&R 1855* = φυλάσσουντα; *Arc 1613* = φυλάσσουντας.
- d. This does not appear in *Rob 1552* or *Arc 1613*.
- e. This does not appear in *Arc 1613*.
- f. This does not appear in *Rob 1552* or *Arc 1613*.
- g. *K&R 1855* = ἐς.
- h. *K&R 1855* = τις.

1. See also Arr., *Tact.* 22.
2. On the 'leaders' and 'followers' of a file, see [Chapter 5](#).
3. It is unlikely that such orders as Aelian uses here would actually be given in the heat of battle. It is more likely that he is using an enemy as a point of reference to provide a clear interpretation of a drill movement that followed others that, for whatever reason, were only temporary (such as when training in certain movements). A good common translation of this order would be 'as you were!' The term *ep*

orthon [ἐπ' ὀρθὸν] can also be used to command the adoption of an erect posture (i.e. to stand at attention).

Chapter 26

- a. *K&R 1855* = ζυγά.
 - b. This does not appear in *Rob 1552* or *Arc 1613*.
 - c. *K&R 1855* = Κρητικὸς καὶ Περσικὸς καὶ χόριος
 - d. *K&R 1855* = τῶπων.
 - e. This does not appear in *Rob 1552* or *Arc 1613*.
 - f. *K&R 1855* = ζυγά.
 - g. This does not appear in *Rob 1552* or *Arc 1613*.
 - h. This does not appear in *Rob 1552* or *Arc 1613*.
 - i. This does not appear in *K&R 1855*.
 - j. This does not appear in *Rob 1552* or *Arc 1613*.
1. See also Ascl., *Tact.* 10.13; Arr., *Tact.* 23–24.
 2. This method of counter-marching was known as the ‘Choral Counter-march’ because the chorus in a Greek dramatic performance, traversing the stage in a measured step, would use this method to change direction.
 3. In other words, a counter-march is a way of having a formation change the direction of its facing by 180 degrees, repositioning the file-leaders to the new front, without going through the process of wheeling, as is outlined in [Chapter 24](#). Wheeling a formation 180 degrees required a great deal of room to accomplish (as it swung like a gate on a single pivot point). Counter-marching, on the other hand, requires no additional lateral space and so units positioned beside each other could, through the application of this manoeuvre, change their facing without impeding each other. Indeed, a whole phalanx of thousands of men arranged in numerous sub-units could all turn about at the same time using one of the methods of counter-march with no danger of fouling the lines. The details of how to conduct each of the different forms of counter-march are given by Aelian in [Chapter 27](#).
 4. The counter-marches outlined in the first part of this chapter were by file. That is, changing the facing of the files within the formation from front to back. Counter-marching by rank is the transition of men across the phalanx from side to side. In doing so, an officer that may have been at the head of the furthest right-hand file, would find himself, after the counter-march had been conducted, at the head of the very

left-hand file. To successfully accomplish such a move, the men of the two units that were exchanging places would have to turn 90 degrees to either the left or right (in effect making long files) and then conduct a counter-march using the Cretan/Choral/Persian method, as it requires no additional space to be undertaken (see [Chapter 27](#)). Once the units had changed places, the men would then turn to face the front again. Thus the individual files would be arranged, front-to-back, just as they originally had been, but the location of each file across the battle-line would have been swapped (i.e. the file that had been on the far right would now be on the far left and so on).

Chapter 27

- a. *K&R 1855* = οὐραφῶ.
 - b. *Arc 1613* = ἐν εἵχεν; *K&R 1855* = ἐν εἵξεν.
 - c. *K&R 1855* = ἀπρλθοντες.
 - d. This does not appear in *Rob 1552* or *K&R 1855*.
 - e. *Rob 1552* and *Arc 1613* = ἴστανται.
 - f. This whole section does not appear in *Arc 1613* or *K&R 1855*.
 - g. *Rob 1552* = μεταλλάξῃ; *Arc 1613* = μεταλλάξι.
 - h. *K&R 1855* = ὁ μὲν.
 - i. *K&R 1855* = προτάσσηται.
 - j. *K&R 1855* = χόριος.
 - k. This does not appear in *Arc 1613*.
 - l. *K&R 1855* = γίγνονται.
 - m. *K&R 1855* = τάγματα.
 - n. *K&R 1855* = τι; *Arc 1613* = ὥστε.
 - o. *Arc 1613* = δηποτοῦν.
 - p. *K&R 1855* = ἐξελίσση.
 - q. *K&R 1855* = ἀντιμεταλάβῃ.
 - r. *K&R 1855* = οὐδὲν.
1. See also *Ascl.*, *Tact.* 10.13–16; *Arr.*, *Tact.* 22–23.
 2. To accomplish this movement, the formation would more than likely halt. The file-leader would then wheel about 180 degrees (most likely to the shield, i.e. the left, if an enemy force was present behind them) and look back down between the files. The remainder of the file (which was still facing forward) would then advance past the stationary file-leader. For such a manoeuvre to operate smoothly, each file of the formation would have to march to the same side of their respective file

leader (i.e. to his right or left). As each man reached a position equal to his normal interval behind the front of the line, that man would wheel about, join the newly forming file, and face back in the direction that he had come. This process would continue until the *ouragoi* took up their regular position at the rear of the file. Thus the file-leaders would resume their position at the head of the files, and the *ouragoi* would once again be in the rear, but the formation would be facing the other way. Such a transition would have been made if an enemy suddenly appeared to the rear of the line. However, while possessing the inherent risk of positioning the back of a relatively stationary formation to an advancing enemy, it had the deceptive quality of appearing as if the rearward ranks were breaking and retreating from that enemy. Should the enemy press the attack too slowly, they could be drawn in to a position where they would have to face the experienced forward ranks of a counter-marched formation rather than attacking it from the rear. However, Aelian says in [Chapter 33](#) that the sight of what appears to be a formation in flight could actually spur on an enemy to attack with more vigour. It is uncertain why this manoeuvre is referred to as ‘Macedonian’, as both Philip and Alexander seem not to have used it, preferring instead to use the Lacedaemonian Counter-march to change the facings of their armies (see [Chapter 33](#)).

3. The process for conducting this first method of the Lacedaemonian counter-march is, more or less, the exact opposite of the earlier discussed Macedonian counter-march. Basically the men in each file about-face. The file leader (now at the back of the formation) moves down between the files and, as he passes the first man, that man falls in behind the file-leader and they continue down the interval. This process continues as the file-leader and those following him pass each man in turn, with the train following the file-leader growing as each man is passed. When the file-leader reaches the *ouragos*, he continues to advance forward to a distance equal to the depth of the file in its respective order (most likely determined by knowing how many paces it took to cover the depth of a file in various orders). When this distance is reached, the file-leader and those following him would halt and the *ouragos* would simply fall in at the back of the file. As such, the unit has changed its facing by 180 degrees but has moved into the open ground that had been to the rear of the formation, thus (as Aelian says) appearing to advance towards an enemy that had been behind the

formation.

4. This section, which outlines the process of ‘doubling’, which is covered in more detail in the next chapter, only appears in Robertello’s 1552 edition of the *Tactics* and does not appear in any of the other Greek versions of the text (e.g. *Arc 1613* or *K&R 1855*), nor does it appear in any of the English translations of the text such as Bingham’s 1616 edition or Augustus’ 1814 edition. It is possible that it was omitted from later editions as the information is more comprehensively covered in a later part of the work (see [Chapter 28](#)).
5. To accomplish this manoeuvre (using the second method outlined by Aelian), the leader of each file would wheel 180 degrees (either to the left or right depending upon the word of command) and move down between his file and that next to it. As the man in the second rank was passed, he too would peel off and follow the file-leader down through the interval. As each man was passed, he would also wheel around and follow down the interval. This would occur simultaneously right across the phalanx and continue until the file-closing *ouragos* was passed; he would then wheel about and fall in at the rear of his respective file. Thus the entire formation would now be facing in the opposite direction and all of the officers would be in their correct positions. According to Herodotus (7.211), at Thermopylae in 480 BC, the Spartans conducted such counter-marches so as to appear to be retreating from the Persians (as the Spartans were moving away from an enemy at their front and so would not appear to be advancing towards an enemy at their rear as Aelian describes). Such feigned retreats forced the Persians to disrupt their own formations by crossing the mounds of their own dead in pursuit of the supposedly retreating Spartans. However, once a short distance had been covered, which gave the Spartans a new killing ground on which to operate, they counter-marched yet again and took the battle to the Persians afresh. Such manoeuvres would also have given the Spartan front ranks a small respite from fighting to allow them to get their breath back in preparation for the ensuing struggle.
6. The benefit of the Choral/Cretan/Persian Counter-march over either the Macedonian or some versions of the Lacedaemonian model is that it could be conducted while the formation was either on the move or while stationary. The file-leaders would wheel to their designated side and march down between the files. However, rather than remain

stationary and wait for those changing direction to pass, as in the other models, the file would continue to advance forwards. As each man reached the point where the file-leader had originally stood prior to the counter-march taking place, they too would then wheel about, using the file-leader's original position as a pivot point, and follow along down between the files in the opposite direction. When the leader of each file reached the point beside the position that the *ouragoi* of their respective file had occupied (most likely determined by knowing how many paces had to be made to cover the distance from the front to the rear of the line), the file-leaders would halt. By this stage (if each man had maintained his interval and the pace count had been correct) the *ouragoi* should have advanced to the position originally held by the file-leaders. The *ouragoi* then simply wheeled about to create a formation that was now facing the other way but had required no more room for the transition than the phalanx had originally occupied.

7. This is not entirely correct; see [Chapter 26](#) note 4.

Chapter 28

a. *Rob* 1552 = τὸ.

b. *K&R* 1855 = ἀντὶ χιλίοι.

c. This does not appear in *Rob* 1552 or *K&R* 1855.

d. *K&R* 1855 = ἐν ταύτῳ.

e. This does not appear in *Rob* 1552 or *Arc* 1613.

f. This does not appear in *K&R* 1855.

g. *K&R* 1855 = παραχῆς.

h. This does not appear in *Arc* 1613.

i. This does not appear in *Rob* 1552; *Arc* 1613 = δευτέρῳ.

j. *K&R* 1855 = ἔως.

k. *K&R* 1855 = οὕτως.

l. This does not appear in *Rob* 1552 or *Arc* 1613.

m. This does not appear in *Rob* 1552; *Arc* 1613 = ἐὰν ἐξελιγμὸς γένηται.

1. See also Ascl., *Tact.* 10.17–20; Arr., *Tact.* 25.

2. This is accomplished by moving the rear half-files, under the command of the half-file leader, into the intervals of, for example, an open-order formation where the men are separated by 192cm per man. In doing so, the interval between each file of the new formation is halved to 96cm, thus creating an intermediate-order formation that still has officers

positioned across the front rank. This could alternatively be seen as 'doubling by rank' as the rearward eight ranks of the formation are, in effect, moving forward to merge with the forward eight ranks. (See [Plate 15](#).)

3. Aelian does not elaborate on how this was accomplished, but it seems most likely that the rear half-files about-faced and then marched forward (i.e. towards the rear) until the half-file leader was adjacent to his original position. The rear half-file would then halt, about-face, and side-step to take up their original position.
4. It is unlikely that the 'usual' order of the phalanx was an open order, which would have allowed, had the commander so wished, a doubling of the line. It is more likely that light troops and cavalry were positioned on the wings of a formation of regular depth (i.e. sixteen-deep) but already in intermediate-order (the closest order a body of phalangites could adopt for battle). The extra troops on the wings would give the impression that the line of infantry was wider.
5. There are numerous ways in which the width of a formation could be enlarged or 'doubled'. One way this could be accomplished would be by having a body of infantry move into an order with a larger interval between the men (i.e. from an intermediate-order of 96cm per man into an open-order of 192cm per man). This then doubles the amount of space that each man occupies and so increases the overall frontage of the formation. Aelian, unfortunately, does not discuss how this was carried out or whether the depth of the phalanx was altered as a result of it. Clearly, the doubling of the phalanx lengthwise cannot have been undertaken by merely inserting the rearward half-files into the intervals between the forward half-files, as this has the effect of only reducing the depth of the formation while simultaneously adopting a closer order (see note 2). It seems likely that a doubling of the width of the formation in this manner was made, for example, by having the file on the left stand firm. The remaining files would then turn to the right and then march forwards. As the distance between the files increased, with the men moving away from the file that was standing firm, each line of men would halt when they reached a point equal to double their original interval. This would then continue until all the intervals between the men had been doubled in size. All of the men would then turn to face the front, thus creating a unit with the same number of men in each file but with the space between them doubled. Another

way that a formation could have doubled its width would have been by having the rear half-files separate from the forward half-files, turn to either the right or left (or have those on each wing turn to their respective sides), march behind the forward half-files, and then take up a new position beside the forward half-files. This would double the width of the line but would also halve its depth. Yet another way this could be done would be by having the rear half-files insert themselves between the forward half-files (in effect, reducing the depth of the formation from sixteen to eight) but then have them follow the first process for opening up their intervals as outlined above. This would have the effect of halving the depth of the line but quadrupling its width.

6. Again, this assumes that the formation begins in intermediate-order or 96cm per man at the very least. The members of the even-numbered files would side-step back and to the right and take up a position behind the man that had been next to them. In doing so, the formation changes from one that was in intermediate-order all around (i.e. on all sides of each man), into one where each of the files (now containing thirty-two men) was in a close-order of 48cm per man front-to-back, but occupying the same space as sixteen men in intermediate-order. In doing so, there would also be a gap equivalent to an open-order interval of 96cm per man between each file after they had merged. Whether these new files then shuffled up to lessen this gap is left untreated by Aelian.
7. Nearly every previous translation of Aelian has had trouble interpreting this passage. For example, Bingham, in his 1616 edition, included a large section in parentheses in an attempt to make sense of it. Augustus, in a note in his 1814 edition, stated ‘we have translated this sentence paraphrasically. Had we given it literally, it would have been almost intelligible’. Based upon the previous manoeuvres detailed by Aelian, the version presented here, while not closely following the original, is one of the few ways to make sense of the text.

Chapter 29

- a. *Arc 1613* = καθόλου.
- b. This does not appear in *Rob 1552* or *Arc 1613*.
- c. *Arc 1613* = πράγμα; *K&R 1855* = τᾶγμα.
- d. *K&R 1855* = ἔχλη.

- e. *K&R 1855* = τὸ βάθος τοῦ μήκους.
- f. This does not appear in *Rob 1552* or *Arc 1613*.
- g. *K&R 1855* = ὑποστολῆς.

1. See also Arr., *Tact.* 26.
2. As such, the units of these wings would almost be arranged in a column rather than in ranks, possibly done by doubling the depth of the files as Aelian outlines at the end of [Chapter 28](#).
3. What these events would be entirely dependant upon the orders that the wing had received (e.g. to hold their ground, to continue to advance so as to hit the enemy line after the other wing had already engaged, etc.) and upon the many variables that play out during the course of a battle. For example, at the battle of Leuctra in 317 BC, the Thebans and their allies deployed in an oblique line against the Spartans and their allies. The Thebans occupied a forward position on the left wing, in what Aelian would refer to as an 'even' formation, fifty ranks deep but with a lesser frontage. The contingents of Theban allies were arranged in an oblique line angled back and to the right of the Theban position. This deployment was adopted to draw the opposing line of Spartan allies forward (Plut., *Pel.* 23; Diod. Sic. 15.55.2; Polyaeus, *Strat.* 1.35.1). The Spartans were deployed directly opposite the Thebans (i.e. on the Spartan right wing) in a transverse formation, twelve ranks deep. The Theban line advanced, smashing into the Spartan formation at the point where their king, Kleombrotus, was positioned. Four hundred out of the 700 officers making up the Spartan front rank died in the clash, including Kleombrotus (Xen., *Hell.* 6.4.15; Paus. 9.13.4; Plut., *Mor.* 193B). This demonstrates that some of the allies on the Theban right must also have engaged the Spartans directly. Diodorus (15.55.2) states that the Boeotian right wing had instructions to slowly withdraw from the fighting, thus drawing the Spartan left wing forward.

Chapter 30

- a. This does not appear in *K&R 1855*.
- b. This does not appear in *K&R 1855*.
- c. This does not appear in *Rob 1552* or *Arc 1613*.
- d. This does not appear in *K&R 1855*.
- e. *K&R 1855* = ἐντάσσειν.
- f. *K&R 1855* = ἔχοντας.

g. *K&R 1855* = τὸ ὅλον.

1. See also Arr., *Tact.* 26.

2. This action was most likely conducted in a manner similar to the doubling of the depth of the files of the phalanx, but laterally rather than from front to back (see [Chapter 28](#) note 5). The men of the even-numbered ranks would step forward and to the left, taking up a position in the space between the men of the odd-numbered rank ahead of them. This would result, if the men had originally been deployed in an open-order, in a formation with an intermediate-order spacing of 96cm per man between the men of each rank, but with an open-order spacing of 192cm per man between each of the ranks. Whether each reformed rank then moved forward to lessen this gap, in effect creating an intermediate-order phalanx, is unstated.

3. In [Chapter 16](#), Aelian states that the light troops were regularly deployed in files of eight men. As such, it can only be assumed that, if an *entaxis* formation was ever adopted, the light troops were arranged with an interval between each man from front to back twice the size of the interval that the infantry were deployed in (i.e. if the infantry were in intermediate-order, then the light troops would be in open-order) so that the files covered the same linear distance from front to rear. It is also assumed that, if the light troops were inserted between the files of infantry, then enough space between the files would also be left for the light troops to use their weapons unless the formation was strictly for the purpose of marching. (See [Plate 16](#).)

Chapter 31

a. *K&R 1855* = δεῖ συντάγματα.

b. *Rob 1552* = ἀντικαθιστάναί.

c. *K&R 1855* = τῶν ἐν τοῖς λοιποῖς.

d. *K&R 1855* = προσάγειν.

e. This does not appear in *K&R 1855*.

f. This does not appear in *Rob 1552* or *Arc 1613*.

g. *Rob 1552* = ἐπὶ.

h. *K&R 1855* = λόχος.

i. *K&R 1855* = προάγοντες.

j. This does not appear in *Arc 1613*.

k. *Rob 1552* = προεἴχεν.

l. This does not appear in *Rob 1552* or *Arc 1613*.

- m. *K&R 1855* = οἱ δὲ λοιποὶ κατὰ ζυγὰ προαγέτωσαν, εἴτα μεταβαλλέσθωσαν.
- n. *K&R 1855* = ἀποκαταστήσῃ εἰς τὰ ἴδια.
- o. This does not appear in *Rob 1552* or *Arc 1613*.
- p. *K&R 1855* = οὕτω.
- q. *K&R 1855* = ἀνιέναι τὰ.
- r. This does not appear in *Rob 1552* or *Arc 1613*.
- s. This does not appear in *Rob 1552* or *Arc 1613*.
- t. *K&R 1855* = καθεστῶτα.
- u. *K&R 1855* = τοῦτ' ἔστιν.
- v. *K&R 1855* = περισπασμὸς γένηται, ἔτι δεῖ.
- w. *K&R 1855* = τοῦτ' ἔστιν.
- x. This does not appear in *K&R 1855*.
- y. This does not appear in *Rob 1552* or *Arc 1613*.
- z. *K&R 1855* = μέρη.

1. See also Ascl., *Tact.* 10.10–12, 12.1–8.

2. The concepts contained within this chapter, and some of those that follow, are more readily understood by first examining a military principle known as ‘fronts and flanks’. When a formation is all lined up facing in one direction (for example, towards an enemy or an instructing officer), they are facing to the front. The right flank of the formation is known as the right, the left flank is known as the left, and the rear of the formation (away from the enemy or instructor) is known as the rear. When facing forward, the relative positions of these angles of facing correlate with the facing of the individual men in the formation (i.e. the front is also **their** front, the left is also **their** left, the right is also **their** right, and the rear is also **their** rear). (See [Figure 5](#).)

Things become more complicated when part of the phalanx changes its facing in respect to the enemy or instructor (e.g. if it undertakes a wheeling). If a formation wheels to the right (as in Aelian’s first example in this chapter) the positions of the front, the left, the right and the rear remain unchanged. However, from the perspective of the men within the formation, the facings become somewhat different, as their own perception of facing has shifted by 90 degrees. Consequently, the front becomes **their** left, the left becomes **their** rear, the right becomes **their** front, and the rear becomes **their** right. (See [Figure 6](#).)

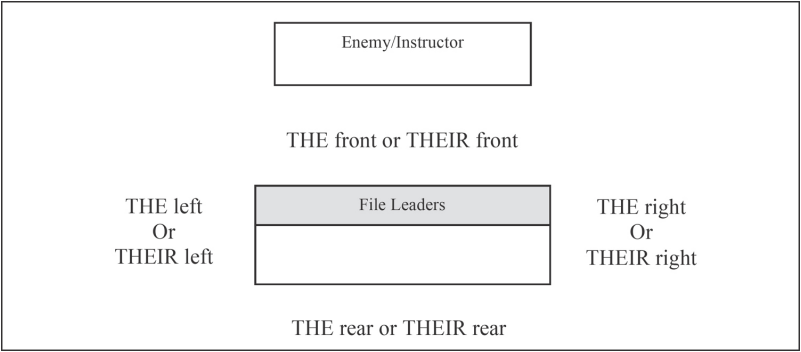


Figure 5: The ‘fronts and flanks’ when the army is facing towards an enemy.

Formations that have wheeled to the left (as in Aelian's second example) also experience this change in perspective, but in the opposite direction: the front becomes **their** right, the left becomes **their** front, the right becomes **their** rear, and the rear becomes **their** left. (See [Figure 6](#).)

For formations completely turned about (i.e. those who have about-faced and are looking away from the enemy or instructor, as in Aelian's third example) the perspective from within the formation completely reverses, so that the front becomes **their** rear, the left becomes **their** right, the right becomes **their** left, and the rear becomes **their** front. (See [Figure 7](#).)

Unfortunately, Aelian does not differentiate between the two different perspectives on facing within his text, despite clearly using different perspectives throughout the passages of the chapter. In some cases, Aelian merely uses the definite article 'the' (e.g. 'the men turn to the right') without detailing whether this is meant to be taken as a reference to the direction or **their** direction. In other instances, Aelian refers to turning either 'to the shield' or 'to the spear' without considering which way the soldiers are facing before they turn and elaborating on this detail to the reader. This can lead to some confusion when reading the passage in its original form. Consequently, while not following the original text to the letter, this edition will use, where required, a standard format of giving the direction of facing, first based upon the direction of the entire army line, followed [in brackets] by the direction from the perspective of the men within the formation; e.g. 'they turned to the front [i.e. **their** right]'. Coupled with an understanding of the concepts outlined above, this will make the direction that the formation is turning/facing/ wheeling in Aelian's passages more readily understood.

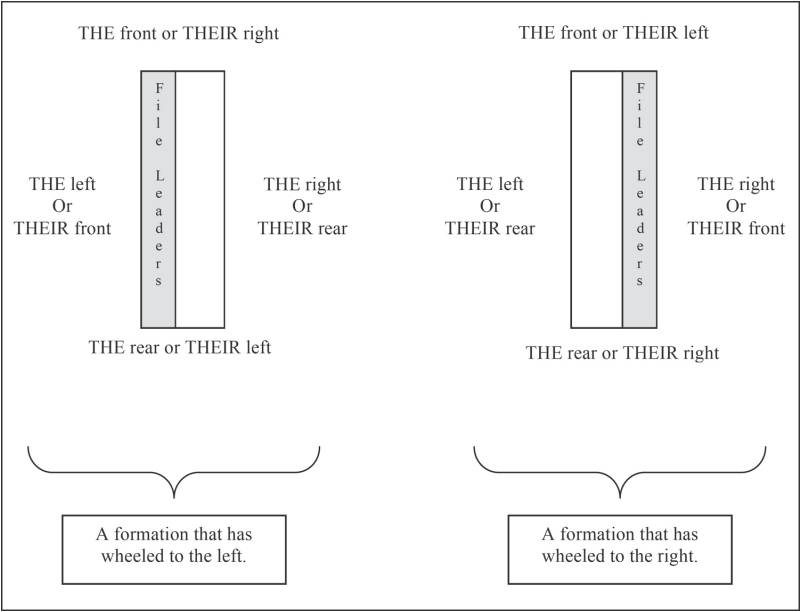


Figure 6: The ‘fronts and flanks’ when a formation has turned to the left or right.

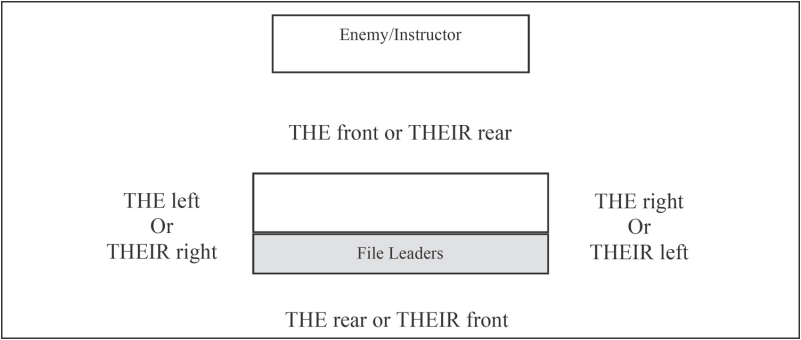


Figure 7: The ‘fronts and flanks’ when the army is facing away from an enemy.

3. In other words, these files then turn to the front [i.e. **their** left] so that the whole formation is once again facing to the front.
4. This 'wheel' would be conducted in a similar manner to the *epistrophē* detailed in [Chapter 24](#) (i.e. pivoting around the right hand man, who acts like the hinge on a gate). Thus it seems clear that the ancient manoeuvre of wheeling is not the same concept as the modern military drill movement, where a moving formation changes its direction by simply turning around a pivot point on either the left or right-hand side while each man retains his position and interval within the formation. This modern movement is more like the *epistrophē*. The ancient wheel appears to have only been done in a very compact order, most likely to limit the amount of space required to conduct such a manoeuvre and to lessen the distance that each man has to travel through the change of direction. As such, a 'wheel' could not have been conducted while the formation had its pikes lowered and can only have been undertaken with the weapons held vertically (see [Chapter 32](#)). Although unstated, it can only be assumed that, once the 'wheel' had been completed, the formation then opened its intervals to assume the spacing of the original formation.
5. In other words, the whole formation turns about and faces the way they had come. They then wheel in the same manner as the *epistrophē*, using the man at the front left corner of the formation as the pivot point.
6. In other words, the whole formation, which is facing to the rear at this stage, about-faces to once again look to the front. Thus, all of the men are back in their original position.
7. So as to be facing towards the front.
8. In many of the editions of Aelian, this passage is very hard to follow. Based upon the details that Aelian provides for returning a formation from a wheel to the right, the version presented here, while not closely following the original, is one of the few ways to make sense of the text.
9. Here, Aelian discusses the process of turning the formation about 180 degrees by wheeling to the right twice.
10. This is on the right-hand side of the formation. For the men who have about-faced, it would actually be the file on **their** left.

Chapter 32

- a. *K&R 1855* = κέρας.
- b. *Rob 1552* = βουληθῶμεν.
- c. This does not appear in *Rob 1552* or *Arc 1613*.
- d. *K&R 1855* = διαστήματα συντηρήσαντες.
- e. This does not appear in *Rob 1552* or *Arc 1613*.
- f. *K&R 1855* = ἔλθωσι.
- g. *K&R 1855* = πυκνώσεως.
- h. *K&R 1855* = ἄνω τὰ δόρατα.

1. See also *Ascl., Tact.* 12.8–9.
2. For the different terms for the facing of the formation depending upon the perspective, see [Chapter 31](#) note 1.
3. Following the details that Aelian provides for closing to the left or right, it is assumed that the central files of each wing hold fast while the remainder of the unit undertakes a closing to their respective left or right sides.

Chapter 33

- a. This does not appear in *Rob 1552* or *Arc 1613*.
- b. This does not appear in *Rob 1552* or *Arc 1613*.
- c. *K&R 1855* = τῶν ἐξελιγμῶν.
- d. *Rob 1552* = ὀνομάτων τῶν; *Arc 1613* = ὀνομάτων.
- e. *K&R 1855* = μέντοι.
- f. This does not appear in *Rob 1552* or *Arc 1613*.
- g. *K&R 1855* = τε.
- h. This does not appear in *K&R 1855*.
- i. *K&R 1855* = ἡ χρεία καὶ τοῦτον.
- j. *K&R 1855* = χρησαμένους.
- k. This does not appear in *Rob 1552* or *Arc 1613*.
- l. *K&R 1855* = ἐμποιεῖ.
- m. *K&R 1855* = γάρ.
- n. *K&R 1855* = κατάπληξιν.
- o. *K&R 1855* = διωγμὸν τοῖς οὕτως.
- p. *K&R 1855* = ἀκολουθεῖν.
- q. *Rob 1552* = ὑπ' αὐτῶν τῶν.
- r. *K&R 1855* = γίνεταί δειλία.

1. The battle of Chaeronea took place in 338 BC.
2. For the way in which the different forms of counter-march are

conducted, see [Chapter 27](#).

Chapter 34

- a. *K&R 1855* = πεζῶς.
 - b. *K&R 1855* = πρὸς.
 - c. *K&R 1855* = περίστασις.
 - d. *K&R 1855* = ἄν.
 - e. *K&R 1855* = ἀντιστῆ.
 - f. This does not appear in *Rob 1552* or *Arc 1613*.
 - g. *K&R 1855* = καὶ.
 - h. *Rob 1552* = παρῖππασεων καὶ χρεμετισμῶν.
1. See also *Ascl.*, *Tact.* 12.10; *Arr.*, *Tact.* 27.

Chapter 35

- a. From this point, *K&R 1855* differs considerably from either *Rob 1552* or *Arc 1613*. The passage that is found in *K&R 1855* is reproduced below. It is merely a summarized version of many elements of the following chapters, which are missing from *K&R 1855* in their entirety.

Περὶ δὲ πορείων μέλλοντες λέγειν τοσοῦτον προερούμεν, ὅτι ἡ μὲν τις ἐν ταῖς πορείαις ἐπαγωγὴ λέγεται, ἡ δὲ παραγωγὴ. καὶ ἐπαγωγὴ μὲν λέγεται, ὅτ' ἂν τάγμα τάγματι ὑποτάσσεται, οἷον τετραρχίας ἡγουμένης αἱ λοιπαὶ τετραρχίαι ταύτῃ ὑποτάσσονται ἢ ξεναγίας ἡγουμένης αἱ λοιπαὶ ξεναγαί ἐπακολουθῶσι, καὶ καθ' ὅλου, ὅτ' ἂν σύνταγμα συντάγματι ἔπεται, ὥστε τοῖς τοῦ προηγουμένου συντάγματος οὐραγοῖς τοὺς τοῦ ἐξῆς συντάγματος ἡγεμόνας συνάπτειν. ἡ δὲ παραγωγὴ ἐστίν, ὅτ' ἂν ἡ φάλαγξ πορεύηται τοὺς ἡγεμόνας ἐκ τῶν εὐωνύμων ἔχουσα ἢ ἐκ τῶν δεξιῶν. κἂν μὲν ἐκ τῶν εὐωνύμων μερῶν ἔξη τοὺς ἡγεμόνας, εὐώνυμος παραγωγὴ καλεῖται, ἐὰν δὲ ἐκ τῶν δεξιῶν, δεξιὰ παραγωγὴ. ἐάν τε δὲ ἡ πορεία ἐν ἐπαγωγῇ γίνηται, ἐάν τε ἐν παραγωγῇ, ἐν μονοπλεύρῳ ἢ διπλεύρῳ ἢ τριπλεύρῳ ἢ τετραπλεύρῳ τάγματι βαδιεῖ. μονοπλεύρῳ μὲν, ὅτ' ἂν ἓνα φοβῆ, διπλεύρῳ δέ, ὅτ' ἂν δύο, τριπλεύρῳ δέ, ὅτ' ἂν τρεῖς, τετραπλεύρῳ δέ, ὅτ' ἂν πάντοθεν οἱ πολέμοι ἐπιτίθεσθαι μέλλωσιν. γίνονται δ' αἱ πορεῖαι ποτὲ μὲν μονοφαλαγγία, ποτὲ δὲ διφαλαγγία, ποτὲ δὲ τριφαλαγγία ἢ τετραφαλαγγία. ἀκόλουθόν ἐστίν εἰπεῖν καὶ περὶ φάλαγγος πῶς λέγεται ἀμφίστομος, καὶ ἐν πορείαις πῶς λέγεται διφαλαγγία ἀμφίστομος καὶ ἀντίστομος καὶ

ἑτερόστομος καὶ ὁμοίοστομος.

1. See also Ascl., *Tact.* 11.2–7; Arr., *Tact.* 28.
2. The basics of the *paragōgē* formation are given in [Chapter 36](#). The entire phalanx marches in one long column, with all of the file-leaders making up a single long file on the side that a perceived threat is expected to come from. The *ouragoi* would form the column furthest away from the expected threat, and all of the other ranks would be positioned in their regular order in between. Should the enemy appear, the column would only need to halt and turn to face the enemy, and the battle-line would be fully deployed, with the officers in the front rank and the *ouragoi* to the rear, ready for battle. If the threat was expected to come from both sides, then the phalanx would be divided in half and would march in two parallel columns, with both of the *diphalangarchia* marching with their file-leaders on the outside and their *ouragoi* towards the centre. Should the enemy appear from both directions, both columns would turn outwards and be ready for battle. If the threat was expected to come from three directions (e.g. left, right and front), then the phalanx would be divided into three and march in a square horse-shoe shape not unlike the Greek capital letter pi (Π). In this instance, the two columns on the wings would march with their file-leaders on the outside and the *ouragoi* in the centre (i.e. the same as with the double column), while the forward formation would march with its file-leaders to the front and the *ouragoi* to the rear (i.e. towards the centre of the formation). Should the enemy appear, the formations on the wings would turn out to face the enemy while the front formation simply retained its position so that all threats could be met at once. In some instances, the central division also marched in column but was positioned forward or aft of the wings in a squarish ‘Y’ shape. If the threat was expected from all sides, then the phalanx would be divided into four and would march in a quadrilateral column or hollow square, with each of the *phalangarchiae* marching with their file-leaders to the outside and the *ouragoi* towards the centre. The lines would then be able to turn out to meet an attack from all directions.
3. This last sentence does not seem to make a lot of sense when taken in conjunction with the rest of the paragraph that it is attached to. If a fully formed phalanx, of 1,024 files of sixteen men, turned to either the right or left and marched off in column, that column should contain

sixteen files (the depth of the original formation) of 1,024 men each. In Bingham's 1616 edition, this sentence is absent.

4. For the *antistomos* formation, see [Chapter 37](#).

Chapter 36

a. This does not appear in *Arc 1613* or *K&R 1855*.

b. This whole chapter does not appear in *K&R 1855*. See [Chapter 35](#) note a.

1. For the details of such actions, see [Chapter 35](#) (in particular, note 1).

2. This is not entirely correct. For example, if a full phalanx (1,024 files of sixteen men each) is divided in half to form a 'double *paragōgē*', each division (having turned to the right or left to march in column) would contain sixteen files of 512 men. As such, the width of the formation (sixteen men across its front) is substantially less than its depth. It is only in some of the editions of the *Tactics* that this phrase ('ten across the front and a depth of three') is attached to this sentence; it is omitted from both the 1616 and 1814 editions, for example. It may be that this passage was written in reference to a phalanx formed ten-deep, which would, when turned to march in column, have a frontage of ten men. The reference to the column being 'three deep' is somewhat less certain as none of the large sub-units of the phalanx (e.g. the four *phalangarchiae*, or the eight *merarchiae*, or the sixteen *chiliarchiae*) can be arranged in either single, double, triple or quadruple columns so that each column contains three units (see also [Chapter 35](#) note 2). Augustus, in a note to his 1814 edition, states that these sentences are 'not necessary to Aelian's purpose' and that their meaning has been 'considered and re-considered', apparently with no suitable solution.

Chapter 37

a. This whole chapter does not appear in *K&R 1855*. See [Chapter 35](#) note a.

1. See also Arr., *Tact.* 29.

2. The name of the formation comes from the Greek words *anti* (opposite) and *stoma* (mouth). In effect, the formation divides itself in half across the middle, with the rear half turning to face an attack coming from the rear, while the forward ranks hold off an attack coming from the front. As such, the middle rows of the formation literally stand back-to-back and the formation adopts two fronts.

Chapter 38

- a. From this point, *K&R 1855* differs considerably from either *Rob 1552* or *Arc 1613*. The passage that is found in *K&R 1855* is reproduced below. It is merely a summarized version of many elements of the following chapters, which are missing from *K&R 1855* in their entirety.

Ἀμφίστομος μὲν οὖν φάλαγξ καλεῖται ἡ τοὺς ἡμίσεις τῶν ἐν τοῖς λόχοις ἀνδρῶν ἔχουσα ἀντινώτους ἑαυτοῖς τεταγμένους. διφαλαγγία δ' ἀμφίστομος, ἥτις ἐν τῇ πορείᾳ τοὺς ἡγεμόνας ἔχει ἐξ ἐκατέρων τῶν μερῶν ἐν παραγωγαῖς τεταγμένους, οὓς μὲν ἐν δεξιᾷ παραγωγῇ, οὓς δὲ ἐν εὐωνύμῳ, τοὺς δὲ οὐραγοὺς ἔσω τεταγμένους. ἡ δὲ ἀντίστομος διφαλαγγία τοὺς μὲν ἡγεμόνας ἔχει μέσους τεταγμένους, τοὺς δὲ οὐραγοὺς ἔξω ἔχουσα ἐξ ἐκατέρων τῶν μερῶν ἐν παραγωγαῖς τεταγμένους. ἐτερόστομος δὲ φάλαγξ καλεῖται, ἥτις, ἂν πορεύηται, τὸ μὲν ἡγούμενον ἡμισὺ ἔχουσα ἐν εὐωνύμῳ παραγωγῇ, τοῦτ' ἔστι τοὺς ἡγεμόνας ἐξ εὐωνύμων, τοῦ δὲ λοιποῦ ἡμίσεος τῆς φάλαγγος τοὺς ἡγεμόνας ἐκ τοῦ ἐτέρου μέρους, ὅπερ ἔστιν ἐν δεξιᾷ παραγωγῇ. ἡ δὲ ὁμοίστομος ἐν τῇ πορείᾳ διφαλαγγία, ἥτις τοὺς ἡγεμόνας ἐκατέρας φάλαγγος ἐκ τῶν αὐτῶν μερῶν ἔχει τεταγμένους, οἷον ἐκ δεξιῶν ἢ ἐξ εὐωνύμων ἐκατέρας φάλαγγος. εἰ δὲ ἀμφίστομος διφαλαγγία τὰ μὲν ἡγούμενα πέρατα ἀλλήλοις συνάψῃ, τὰ δὲ ἐπόμενα διαστήσῃ, τὸ τοιοῦτον καλεῖται ἔμβολον. οἱ γὰρ ἡγεμόνες προεμπίπτοντες ἐκδέχονται τοὺς πολεμίους. εἰ δὲ ἀντίστομος διφαλαγγία τὰ μὲν ἐπόμενα συνάψῃ, τὰ δὲ ἡγούμενα διαστήσῃ, τὸ τοιοῦτον κοιλέμβολον καλεῖται, καὶ ὁμοίως οἱ ἡγεμόνες προεμπίπτοντες ἐκδέχονται τοὺς πολεμίους. πλαίσιον δὲ λέγεται, ἔὰν πρὸς πάσας τὰς ἐπιφανείας πᾶς ὀπλίτης παρατάσσηται ἐν ἐτερομήκει σχήματι· πλινθίον δέ, ἔὰν ἴσαις ταῖς φάλαγξι πρὸς πάσας ἅμα τὰς ἐπιφανείας παρατάσσηται τις ἐν τετραγώνῳ σχήματι.

- b. This does not appear in *Arc 1613*.

1. The name of the formation comes from the Greek words *amphi* (on both sides) and *stoma* (mouth). In effect, the formation divides itself in half down the middle, with both halves turning outward to face an attack coming from the flanks. As such, the middle files of the formation literally stand back-to-back and the formation adopts two fronts.
2. As noted in the preface, the order of the chapters on the *antistomos* and

the *amphistomos* vary from edition to edition. It seems likely that this sentence belongs to the previous chapter on the *antistomos* rather than to this one. In Augustus' 1814 edition, he states that it is the *amphistomos* formation that has two fronts; one made up of file-leaders and the other of *ouragoi*. Clearly this cannot be the case if the formation has been divided down the middle from front to back and each side has turned outward to face the flanks. This could only occur in a formation that is divided laterally across its width (as in the *antistomos* formation described in [Chapter 37](#)). As such, the very description of the formation given by Aelian supports the idea that this passage belongs to the previous chapter.

Chapter 39

a. In *Arc 1613*, this section begins with the word *amphistromos* (αμφίστρομος), the name of the formation (outlined in either [Chapter 37](#) or [38](#), depending upon the edition) with the phalanx divided in half from front to back and with both wings facing outwards. *Rob 1552* begins this section with the word *antistromos* (αντίστρομος), the formation that is divided laterally across the middle. Both infantry formations vaguely resemble the formation described by Aelian in this chapter, depending upon which way the men in them are facing, and which of the terms is the correct one is uncertain. Arrian (*Tact.* 29) also calls this formation an *antistromos* double phalanx.

1. See also Arr., *Tact.* 29.
2. In other words, it is two parallel columns marching side-by-side, with the file-leaders of each column positioned towards the centre. Both units could be faced inwards, or obliquely forward, towards the gap between the formations. As Aelian later explains in this chapter, such a formation was designed to be used against cavalry formed into a wedge. It was anticipated that the apex of the wedge would plunge into the gap with any charge made against the phalanx, in effect trapping itself between two walls of pikes coming from either side.
3. In [Chapter 28](#), Aelian says that it was the Scythians and Thracians who invented the cavalry wedge and that this formation was later adopted by the Macedonians.

Chapter 40

a. This whole chapter does not appear in *K&R 1855*. See [Chapter 38](#) note

a.

1. This is two units marching in column, but the outside flank of each unit is deployed obliquely, so that the formation has an angled front. (See [Plate 25](#).) Both units are arranged so that their file-leaders are on the outside of the whole formation and their *ouragoi* are on the inside.

Chapter 41

a. *Arc 1613* = σχήματι.

- b. This whole chapter does not appear in *K&R 1855*. See [Chapter 38](#) note a.

1. The name of the formation comes from the Greek words *homoios* (the same) and *stoma* (mouth). In effect, it is a formation marching in column by files (not necessarily in single file as Aelian implies here). For example, a *tetrarchia* can march in *homoiostomos* fashion by being arranged with each *dilochia*, one behind the other, or by having each of the *lochoi* marching one behind the other, as each of the units in the column would possess a depth of sixteen men. Aelian does not elaborate on the required width of this formation. However, it seems that the important factor in the *homoiostomos* formation is the repetition of units arranged by file following one behind the other. Interestingly, the illustrations that accompany both Robertello's 1552 edition and Arcerius' 1613 edition both differ from the description given by Aelian. In the 1552 edition, the *homoiostomos* phalanx is shown as two files of sixteen men with the men of each file turned by 90 degrees, so that the formation is advancing in two lines with a width of sixteen rather than in two files with a depth of sixteen as Aelian describes. Between these rows of pikemen is a row of archers, while another row of archers is positioned behind the back rank. The 1613 edition shows the *homoiostomos* formation as four rows of sixteen (rather than in a depth of sixteen) but the formation is divided laterally in half, with the front two rows turned about to face the ones at the rear. Neither depiction conforms with Aelian's description.
2. The illustration of the *plinthium* in Robertello's 1552 edition shows the heavy-armed pikemen arranged in a hollow square with archers positioned in the middle. While this is one practical application of a hollow-square formation, this depiction more closely resembles the *plaison* formation referred to in [Chapter 48](#) and clearly goes against the

description given by Aelian. The illustration in Arcerius' edition of 1613 shows a solid square of infantry with the files on the left and right-hand sides facing outwards. However, both illustrations contain more pikemen than the sixteen referred to by Aelian in this chapter.

3. What Aelian is describing here is a *syntagma*, sixteen files of sixteen men each. The two *dimoiriae* that Aelian mentions march behind each other in single file (i.e. It is one *lochos*), and sixteen files create a *syntagma* which is a formation that has an equal frontage on all sides.

Chapter 42

- a. This whole chapter does not appear in *K&R 1855*. See [Chapter 38](#) note a.

Chapter 43

- a. *Rob 1552* = κεθ'.
- a. *Rob 1552* = ἀκροβολικῶν.
- c. This whole chapter does not appear in *K&R 1855*. See [Chapter 38](#) note a.
1. Aelian attributes the invention of this formation to Jason of Phaerae in [Chapter 18](#).
2. For the features of the rhombus cavalry formation, see [Chapters 18](#) and [19](#).
3. For the Tarantine cavalry, see [Chapter 2](#).
4. Aelian says that the city of Tarentum, formerly the city of Taras, is in Sicily (Τάρας γὰρ πόλις τῆς Σιχελίας). Tarentum is, in fact, located in the arch of the sole of the boot of Italy and is about 300km (as the crow flies) from Sicily. According to Strabo (*Geography* 6.3), Taras was originally founded by the Spartans following the wars with Messenia as a colony to house 'undesirable' children, the so-called *parthenai*, who had been born to women who had slept with men accused of cowardice and stripped of their Spartan citizenship, because they had refused to go off to war.

Chapter 44

- a. This does not appear in *Arc 1613*.
- b. This whole chapter does not appear in *K&R 1855*. See [Chapter 38](#) note a.
1. For the transverse phalanx, see [Chapter 29](#).

Chapter 45

a. This whole chapter does not appear in *K&R 1855*. See [Chapter 38](#) note a.

1. For the features of the rhombus cavalry formation, see [Chapters 18](#) and [19](#).
2. Aelian attributes the invention of this formation to Ileon in [Chapter 43](#), while he attributes it to a certain Jason (most likely Jason of Pherae) in [Chapter 18](#). Yet here, Aelian ascribes the improvement of the cavalry rhombus to Jason, the ruler of Iolcus, the famed hero who journeyed to recover the Golden Fleece with the Argonauts. Undoubtedly, Jason of Iolcus earned a reputation as a great mariner, but his reputation as a cavalry officer is somewhat more dubious. Jason of Iolcus supposedly lived during the 'Heroic Age', at least 1,000 years before the time of Aelian, and much of what is known about him can only be regarded as conjecture based upon folklore, epic myth and oral tradition. Jason of Pherae, on the other hand, lived during the fourth century BC; his cavalry had a great reputation for their skill at arms, and a great deal more is known about him as a military commander (see [Chapter 18](#) note 2). It is most likely that Aelian has confused the two Jasons of Thessalian history, and that it was Jason of Pherae who improved on, if not invented, the cavalry rhombus in the fourth century BC.
3. In other words, it is a concave formation where the phalanx is arranged in three columns or formations, with each of the units on the wings swept forward of the centre.
4. It is interesting here that Aelian describes the use of this infantry formation to resist the charge of oncoming cavalry when, earlier in the chapter, he states that the cavalry formation that the *epicampios emprostia* is best suited to oppose is a rhombus of mounted archers (who would not actually charge into the 'trap', as Aelian calls it, set by the *epicampios emprostia* formation).

Chapter 46

a. This does not appear in *Arc 1613* or *K&R 1855*.

b. This whole chapter does not appear in *K&R 1855*. See [Chapter 38](#) note a.

1. The name of this formation, coming from the Greek words *kamptien* (to bend) and *opisthen* (behind) initially implies a reversal of the *epicampios*

emprosthia (mentioned in [Chapter 45](#)) into a convex formation, with the wings positioned to the rear of the central units. However, in that chapter, Aelian does not mention that the wings and centre of the *epicampios emprosthia* were of different depths. It seems that the *epicampios opisthia* had the divisions positioned on the wings formed up in column, while the centre was arranged in its normal elongated ranks, thus giving the centre a thinner depth than the wings (and so placing more men ‘in the rear’, as Aelian puts it). However, these wings still appear to have been forward of the centre in the same manner as the *epicampios emprosthia*. In all of the earlier editions of Aelian, the illustrations accompanying this chapter differ from each other. In Robertello’s 1552 edition, for example, the formation is depicted as a concave shape with the wings swept forward. This may be a depiction of the formation as it would stand prior to contact with the enemy (see following note). However, the central section, which Aelian says is three times thinner than the wings, is depicted in this illustration as having a depth of only half that of the wings. In Arcerius’ 1613 edition, the *epicampios opisthia* is depicted as a convex formation with the wings swept back. However, here again, the central section is depicted thinner than the wings only by half. It may be that this image was meant to depict the formation after the wings had been forced back by a strong enemy attack (see following note).

2. Here Aelian outlines the purpose of such a formation. Should the forward-swept wings of the initial deployment be able to resist an attack in the same manner as the *epicampios emprosthia* formation, then the line would hold, as is shown in Robertello’s 1552 edition. However, if the thinner wings were forced back, they could retire a short distance and take up a position beside the central division (as the deeper wing formations would supply more rows of reserves and allow it to ‘hold its ground’, as Aelian describes). This redeployment would then create a solid frontage across the re-formed phalanx, as is depicted in the 1613 edition by Arcerius. Thus, when the new position had been taken up, the enemy, who had previously been only engaging men on the wings, would find itself confronted, not only by the troops from the wings that it had just forced back, but also by the central units as well.
3. This is the direct opposite of the *menooides* formation mentioned in [Chapter 43](#). It is a convex line with the wings swept back. This further suggests that the *epicampios opisthia* formation begins, at least, with its

wings swept forward.

Chapter 47

- a. This does not appear in *Rob* 1552.
- b. This does not appear in *Rob* 1552.
- c. *Rob* 1552 = γίνεται δὲ ἡ ἀμφίστομος τῆς πορείας διφάλαγγία ὅταν τὰ μὲν ἐμπροσθεν κέρατα συνάψῃ.
- d. This whole chapter does not appear in *K&R* 1855. See [Chapter 38](#) note a.

1. The Battle of Leuctra was fought in 371 BC. Both Plutarch (*Pel.* 23) and Diodorus (15.55.2) state that the contingent of Theban allies at Leuctra formed an oblique line (λοξὴ φάλαγξ) designed to draw the opposing wing forward (cf. Polyaeus, *Strat.* 1.35.1). According to Xenophon (*Hell.* 6.4.12), the Thebans, on the left wing of the line, were arranged in a column ‘at least fifty shields deep’ rather than in the wedge that Aelian describes here. At the head of this formation stood the small contingent of the elite Theban Sacred Band (Plut., *Pel.* 18–19, 23; Nepos, *Pelopidas* 4.2). As such, the Theban formation may have resembled something of a stepped wedge, with one small quadrilateral formation positioned ahead of a larger quadrilateral formation, but this is not the formation that Aelian describes in this chapter. The Thebans employed a wedge formation at Mantinea in 362 BC (Xen., *Hell.* 7.5.22–23) and it appears that Aelian may have confused the two battles.
2. An *antistomos* formation, with the leading edges of the two wings joined, will not create a wedge with a frontage of three men (see [Chapter 35](#)). Such a wedge formation could only be made by following the same method of deployment as the cavalry wedge, as Aelian suggests (see [Chapter 19](#)). However, even this does not result in a hollow wedge shaped like a *lambda*, but creates a solid wedge instead.

Chapter 48

- a. This does not appear in *Arc* 1613.
 - b. The last section of this chapter does not appear in *Arc* 1613.
 - c. This whole chapter does not appear in *K&R* 1855. See [Chapter 38](#) note a.
1. The word *plaision* means ‘square’ or ‘brick’. The formation is, in effect, a hollow square of armed infantry with light-armed missile troops in the centre.

2. This last section does not appear in Bingham's 1616 edition; in Augustus' version of 1814, he says that the formation takes its name from the word *plagion* [πλάγιον] meaning 'side' or 'flank', rather than the term *plaision*, as is used earlier in the chapter. In both Robertello's 1552 Greek edition and Arcerius' 1613 Greek edition, the word used for the beginning of this section (as copied here) is *plagion* and is most likely the source of Augustus' translation, although the exact terminology is somewhat questionable (see following note).
3. Thus the formation is much like the *phalanx plagia* [φάλαγξ πλαγία] and has its width much greater than its depth, which may account for the interchangeable use of the terms *plaision* and *plagion* by Aelian. In the text, the word 'oblong' is replaced with the term *heteromekes*. In [Chapter 44](#), Aelian describes the *heteromekes* cavalry formation as having 'a depth double that of its width'. While it is possible that the *plaision* operated in an oblong with the 'small side on', like the cavalry *heteromekes*, it is interesting to note that in every edition of Aelian, the illustration accompanying this chapter shows the formation arranged laterally and confronting the *peplegmenē* with its long side.
4. This whole paragraph appears only in *Rob* 1552 and in no other Greek edition or English translation of the text. It is something of a problematic and disjointed passage (which may explain its absence from other editions) and it appears that it merely recounts many of the details found in earlier parts of the work (e.g. [Chapter 2](#)). Aelian begins by describing the equipment of the hoplite; that is, those men armed in the Classical Greek fashion with breastplate (presumably bronze), helmet, greaves and shield (*aspis*), which he describes as having a diameter of 'seven spans'. A span [*spithamē*, σπιθαμή] was an ancient Greek unit of measure equal to the distance between the tip of the thumb and the tip of the little finger, when the fingers are splayed apart. It was also calculated as equalling 12 *daktyloi*, with one *daktylos* equalling the width of a finger, or about 2cm. As such, one span equalled 24cm and a shield of 7 spans would equal 168cm. However, the hoplite *aspis* was circular in shape and had a diameter of 90cm. Aelian, on the other hand, describes how the shields of the hoplites (which he now calls a *thureos*) are oblong in shape and that the spears (i.e. pikes) that are carried by them are 16 cubits (768cm) in length. As such, it can be assumed that the shield that Aelian is describing has a height of 168cm along the long axis of the oblong, much like the *scutum*

carried by Roman legionaries (see Polybius 6.23). In this passage, Aelian seems to be confusing (and also combining) the armaments of three different types of soldier found in the Hellenistic period: the hoplite (armed in the Classical method mentioned above); the *thureoi*, who carried a large oblong or oval shield and were commonly swordsmen; and the phalangite (or Iphicratean peltast), who was armed with a smaller round shield and a long pike (see [Chapter 2](#)). One thing that indicates confusion over who used the various pieces of arms and armour described in this passage is that the *thureos* had a single central handgrip. As such, it is impossible for a soldier to carry both this type of shield and a long pike, which had to be wielded in both hands – as Aelian describes here.

5. In [Chapter 2](#), Aelian described how the *peltast* wore an ‘Argilos style’ corselet, which may be the composite *linothorax* (see [Chapter 2](#) note 4). The interpretation of the reference to the covering of *kassides* is something of a problem. In the words of one reviewer of this work, the section is ‘... appalling. Every word seems to have a double meaning, and there is a lot of stuff that is plain unintelligible.’ The translation of *kassides* is no exception. Some have seen this word as a reference to a covering of leather of some kind, possibly scales or even an outer layer of armour, while others interpret it as meaning the attachment of tin plates or scales to the armour, while yet others see it as a reference to metal armour (like chain-mail). It is clear from the passage that Aelian is suggesting that the *peltasts* have some form of additional protection as part of their defensive armament. Unfortunately, there is no clear way of distinguishing what that was by this passage alone.

Chapter 49

- a. *K&R 1855* = δέ.
- b. *K&R 1855* = υπερέχωμεν.
- c. This does not appear in *K&R 1855*.
- d. *K&R 1855* = ὅτ’ ἄν.
- e. *K&R 1855* = υπερέχωμεν.
- f. *K&R 1855* = δυνατὸν.
- g. *Rob 1552* = λεπτισμὸς.
- h. *K&R 1855* = συναίρηται.

1. See also Arr., *Tact.* 29.

2. This could be done via the process of ‘doubling’ the files, where the last

half of the file is inserted into the intervals between the forward half-files (see [Chapter 28](#)). However, to effectively thin the line, instead of creating a more compact order as ‘doubling’ does, the intervals of the phalanx would have to maintain their original order. Unfortunately, Aelian does not elaborate on how this manoeuvre was undertaken with a large body of men.

Chapter 50

- a. *K&R 1855* = προάγειν αὐτὰ.
- b. This does not appear in *Rob 1552* or *Arc 1613*.
- c. This does not appear in *K&R 1855*.
- d. This does not appear in *Rob 1552* or *Arc 1613*.
- e. *K&R 1855* = εἰς.
- f. *K&R 1855* = τῇν.
- g. *Rob 1552* = τυγξάνει.

1. See also *Ascl.*, *Tact.* 11.8; *Arr.*, *Tact.* 30.

Chapter 51

- a. This does not appear in *Rob 1552* or *Arc 1613*.
- b. *K&R 1855* = τὰς.
- c. This does not appear in *Rob 1552* or *Arc 1613*.
- d. *K&R 1855* = κελεύσαντα τὸ.
- e. *K&R 1855* = τοῦτ’ ἔστι.
- f. This does not appear in *Rob 1552*.

1. See also *Ascl.*, *Tact.* 12.11; *Arr.*, *Tact.* 31.

Chapter 52

- a. This does not appear in *K&R 1855*.
- b. *K&R 1855* = κελεύσαντα προσέχειν.
- c. This does not appear in *Rob 1552* or *Arc 1613*.
- d. *Rob 1552* = ἀλλήλοισι.
- e. *Rob 1552* = βάρων.
- f. *K&R 1855* = ἀπεικάζει.
- g. *K&R 1855* = ἔνθα ποτῶνται.
- h. *Rob 1552* = πτερύγεσι.
- i. *Rob 1552*, *Arc 1613* and *K&R 1855* combine these two quotes together. However, Augustus’ 1814 edition separates them (as is done here) and so requires the insertion of the word καί to make the passage flow

better.

j. *Rob 1552* = οὐ δὲ ἀγῆρυς; *Arc 1613* = οὐδ' ἰαγῆρυς.

k. *Rob 1552* = ὀπῆ τ' ἔσαν.

l. *Rob 1552*, *Arc 1613* and *K&R 1855* combine these two quotes together. However, Augustus' 1814 edition separates them (as is done here) and so requires the insertion of the word καί to make the passage flow better.

m. *Rob 1552* = πλείοντες

1. See also Arr., *Tact.* 31.

2. Hom., *Il.* 4.426–431.

3. Hom., *Il.* 3.7–8.

4. Hom., *Il.* 2.458–461. Aelian is mistaken here. This passage actually describes the noise that the Greeks make while sallying forth. However, the fifth Homeric passage cited by Aelian clearly describes the Trojans and is similar in many respects.

5. Hom., *Il.* 4.433–438.

6. Hom., *Il.* 3.1–3.

7. Here Aelian repeats the second Homeric passage that he had previously cited (above, n. 3), possibly as a contrast to the preceding passage. It is interesting to note that this brief discussion on the importance of silence within the ranks of a phalanx of the Archaic Age is in stark contrast to the way in which war was primarily conducted during the following Classical period (which comes before the Hellenistic period that Aelian is writing about). During the Classical period, armies of hoplites would regularly advance into battle while singing the *paean* or 'marching song' (ἐμβατήριος παιάν) and/or accompanied by the playing of instruments such as drums, flutes and trumpets (e.g. Plut., *Lyc.* 21–22; *Mor.* 210F, 238A–B; Ath., *Deip.* 14.627D; Polyaeus, *strat.* 1.10.1; Polyaeus, *Excerpts* 18.1; Pausanias 3.17.5; Aesch., *Pers.* 393; Thuc. 1.50, 4.43, 4.96, 7.44, 7.83; Xen., *Hell.* 2.4.17, 4.2.19; *An.* 1.8.17, 1.10.20, 4.3.19–31, 4.8.16, 5.2.14, 6.5.27; Aeneas Tacticus 27.3–4). Thucydides (5.70) states that the Spartans advanced into battle at Mantinea to the sound of flutes in order to keep their line in step, using the music as a form of cadence, and to prevent the formation from breaking, an outcome that he says large armies were prone to as they advanced.

- a. *K&R 1855* = σίγα καὶ πρόσεχε.
 - b. *Rob 1552* = παραγογελμένω; *Arc 1613* = παραγγελομένω; *K&R 1855* = παραγγελλομένω.
 - c. *K&R 1855* = δόρατα.
 - d. *K&R 1855* = οὐραγὸς ἀπευθυνέτω.
 - e. This does not appear in *Arc 1613*.
 - f. This does not appear in *Rob 1552* or *Arc 1613*.
 - g. This does not appear in *Rob 1552* or *Arc 1613*.
 - h. This does not appear in *Rob 1552* or *Arc 1613*.
 - i. *Rob 1552* = αὔτη.
 - j. *K&R 1855* = παρὰ.
 - k. *K&R 1855* = καθηγήσεις.
1. See also Ascl., *Tact.* 12.11; Arr., *Tact.* 32.

Glossary of Key Terms

The entries in the following glossary are given with reference to the chapter (Ch.) within which they appear in Aelian's *Tactics* or which contain specific information on the terms, rather than the page number. (I = Introduction.)

ἀκροβολιστάι [*acrobolists*]: mounted missile troops: [Ch. 2](#)

ἀμφίστομος [*amphistomos*]: a formation with the phalanx divided to face both flanks: [Ch. 38, 47](#)

ἀναστροφή [*anastrophē*]: reverse wheeling a formation: [Ch. 23, 24](#)

ἀντίστομος [*antistomos*]: a formation with the phalanx divided to face both the front and back: [Ch. 37, 39](#)

ἀραιός [*araios*]: 'open'; a way of describing an open-order formation with each man occupying a space of 192cm: [Ch. 11](#)

ἀραρός [*araros*]: 'dissection'; one name for the line between two wings of a formation: [Ch. 7](#)

ἄρμα [*harma*]: chariot: [Ch. 22](#)

ἄρματαρχία [*harmatarchia*]: a group of sixteen chariots: [Ch. 22](#)

ἀσπίς [*aspis*]: normally, the shield of the Classical Greek hoplite, 90cm in diameter; Aelian also uses this term for the smaller (64cm) Macedonian shield: [Ch. 12](#); also the term used to describe the left hand side: [Ch. 31](#)

βάθος [*bathos*]: the depth of a formation from front to back: [Ch. 7, 18](#)

δεκάδος [*dekad*]: one name for a file of soldiers, usually sixteen men: [Ch. 5](#)

διλοχία [*dilochia*]: two combined *lochoi*; two files containing thirty-two men: [Ch. 9](#), [10](#)

διλοχίτης [*dilochites*]: commander of a *dilochia*: [Ch. 9](#)

διμορία [*dimoiria*]: a half-file, containing eight men: [Ch. 5](#), [41](#)

διμορίτης [*dimorites*]: leader of a *dimoiria*: [Ch. 5](#)

διπλασιάζω [*diplasiazō*]: ‘doubling’ the formation: [Ch. 23](#), [28](#)

διπλευρά [*dipleura*]: a double-column formation: [Ch. 35](#)

διχοτομίας [*dichotomias*]: imaginary line separating two wings of a formation: [Ch. 7](#)

διφαλαγγαρχία [*diphalangarchia*]: two combined *phalangarchiae*; 512 files, containing 8,192 men: [Ch. 9](#), [32](#)

διφαλαγγία [*diphalaggia*]: a double phalanx formation: [Ch. 35](#)

διφαλαγγία περίστομος [*peristomos diphalangarchia*]: an open wedge formation with the *ouragoi* on the inside: [Ch. 40](#)

δορατοφόροι [*doratorophoroi*]: ‘spear carriers’; mounted troops armed with a lance: [Ch. 2](#)

δόρυ [*doru*]: normally, the spear of the Classical Greek hoplite, 255cm in length; Aelian also uses this term for the longer Hellenistic pike, which could be over 7m long: [Ch. 12](#); the term used to describe the right hand side: [Ch. 31](#)

δρεπανηφόροι [*drepanophoroi*]: scythe-bearing chariots: [Ch. 22](#)

ἐκτακτοί [*ektaktoi*]: supernumeraries attached to a *syntagma* or *xenagias*: [Ch. 9](#); supernumeraries attached to a *hecatontarchia* of light troops: [Ch. 16](#)

ἐκατονταρχία [*hecatontarchia*]: sixteen files of light troops, containing 128 men: [Ch. 16](#)

ἐκπερισπασμός [*ecperispasmos*]: changing the facing of a formation by wheeling it through 270 degrees: [Ch. 24](#), [31](#), [33](#)

ἐλεφανταρχία [*elephantarchia*]: a group of sixteen war elephants: [Ch. 22](#)

ἐλεφαντάρχης [*elephantarch*]: commander of a group of sixteen war elephants: [Ch. 22](#)

ἐλέφαντοι [*elephantoi*]: war elephants: [Ch. 22](#)

ἐλαφροί [*elaphroi*]: light cavalry who soften up an enemy with javelins before charging with a lance: [Ch. 2](#)

ἐμβολον [*embolon*]: a wedge-shaped formation of cavalry or infantry: [Ch. 18, 19, 39, 47](#)

ἐντάξις [*entaxis*]: positioning within the phalanx: [Ch. 23, 30](#)
ἐνωμοτάρχης [*enomotarch*]: leader of a file or part-file of men: [Ch. 5](#)

ἐνωμοτία [*enomotia*]: one name for a file of soldiers, usually sixteen men: [Ch. 5](#); a name for one-fourth of a file: [Ch. 5](#)

ἐξελίσσω [*exelissaw*]: counter-march: [Ch. 23, 26, 27, 33](#)

ἐπαγωγή [*epagogē*]: the induction of a formation to the right or left: [Ch. 23, 35](#) ἐπιξεναγία [*epixenagia*]: 256 files of light troops containing 2,048 men: [Ch. 16](#) ἐπιθηραρχία [*epitherarchia*]: a group of four war elephants: [Ch. 22](#)

ἐπιθήραρχος [*epitherarch*]: commander of a group of four war elephants: [Ch. 22](#)

ἐπικάμπιος ἐμπροσθία [*epicampios emprosthia*]: an infantry formation with projecting wings: [Ch. 45](#)

ἐπικάμπιος ὀπισθία [*epicampios opisthia*]: an infantry formation with retiring wings: [Ch. 46](#)

ἐπιλαρχία [*epilarchia*]: two files of cavalry, containing 128 men: [Ch. 20](#)

ἐπιστάτης [*epistates*]: ‘followers’; those that come after an officer in a file of men: [Ch. 5, 6](#)

ἐπισυζυγία [*episyzugia*]: a group of eight chariots: [Ch. 22](#)

ἐπιστροφή [*epistrophē*]: wheeling a formation 90 degrees to the left or right: [Ch. 23, 24, 31, 33](#)

ἐπίταγμα [*epitagma*]: 1,024 files of light troops, containing 8,192 men: [Ch. 16](#); two combined *teloi* of cavalry, containing 4,096 men: [Ch. 20](#)

ἐπίταξις [*epitaxis*]: positioning behind the phalanx: [Ch. 23, 30](#)
ἐτερομηκής [*heteromekes*]: a cavalry formation which has a depth double that of its width: [Ch. 44](#)

ἑτερόστομος [*heterostomos*]: units marching in column, but with their file-leaders on alternating sides: [Ch. 42](#)

ἐφιππαρχία [*ephipparchia*]: two combined *hipparchiae* of cavalry, containing 1,024 men: [Ch. 20](#)

ζυγάρχης [*zygarch*]: the second man of a cavalry formation: [Ch. 19, 20](#)

ζυγαρχία [*zygarchia*]: a group of two chariots: [Ch. 22](#)

ζυγόν [*zugon*]: the ‘main rank’; one name for the rank of file-leaders: [Ch. 7](#); also, a general term for a rank of men: [Ch. 7](#)

ζώαρχος [*zoarch*]: commander of a single war elephant: [Ch. 22](#)

ἡγεμών [*hegemon*]: a leader or commander of a group of soldiers: [Ch. 4, 5, 7, 13](#)

θηραρχία [*therarchia*]: a group of two war elephants: [Ch. 22](#)

θήραρχος [*therarch*]: commander of a group of two war elephants: [Ch. 22](#)

θυρεοφόροι [*thureophoroi*]: mounted troops who carry a long shield; also known as ‘targeteers’: [Ch. 2](#)

ἰλαρχία [*ilarchia*]: a group of eight war elephants: [Ch. 22](#)

ἰλάρχης [*ilarch*]: commander of a troop of cavalry: [Ch. 18, 19, 43, 45](#); commander of a group of eight war elephants: [Ch. 22](#)

Ἴλη [*ilē*]: a troop of cavalry, containing 64 men: [Ch. 18, 20, 43](#)

ἵππακοντισταὶ [*hippakontistai*]: mounted javelineers: [Ch. 2](#)

ἵππαρχία [*hipparchia*]: two combined *Tarantinarchiae* of cavalry, containing 512 men: [Ch. 20](#)

ἵπποτοξόται [*hippotoxotai*]: mounted archers, also known as ‘Scythians’: [Ch. 2](#)

κατάφρακτοι [*kataphracts*]: heavy cavalry, with both horse and rider covered in armour: [Ch. 2](#)

κέρας [*keras*]: a group of thirty-two chariots: [Ch. 22](#)

κεραταρχία [*keratarchia*]: a group of thirty-two war elephants: [Ch. 22](#)

κερατάρχης [*keratarch*]: commander of a group of thirty-two war elephants: [Ch. 22](#)

κεφαλή [*kephalē*]: ‘head’; one name for the right wing of a

formation: [Ch. 7](#)

κλίσις [*klisis*]: the turning of an individual through 90 degrees to the left or right: [Ch. 23, 24](#)

κοιλέμβολος [*koelembolus*]: a hollow wedge formation: [Ch. 35](#)

κυρτή [*kyrtē*]: a crescent-shaped infantry formation with retiring wings: [Ch. 46](#)

λεπτυσμός [*leptysmos*]: decreasing the depth of the phalanx by halving the size of the files: [Ch. 49](#)

λοχαγός [*lochargos*]: the leader of a *lochos* (file): [Ch. 5, 6, 7, 27](#)

λόχος [*lochos*]: one name for a file of soldiers, usually sixteen men: [Ch. 4, 9, 10](#)

μεράρχης [*merarch*]: commander of a *merarchia*: [Ch. 9, 10](#)

μεραρχία [*merarchia*]: two combined *chiliarchiae*; 124 files containing 2,048 men: [Ch. 9, 10](#)

μέρος [*meros*]: another name for a *diphalangarchia*; two combined *phalangarchiae*; 512 files containing 8,192 men: [Ch. 9](#)

μεταβολή [*metabolē*]: the turning of an individual through 180 degrees to the left or right: [Ch. 23, 24, 33](#)

μέτωπον [*metopon*]: ‘front’; one name for the rank of file-leaders: [Ch. 7](#)

μήκος [*mekos*]: the width of a formation from left to right: [Ch. 7, 18](#)

μηνοειδής [*menooides*]: a crescent-shaped infantry formation with its wings swept forward: [Ch. 43](#)

μονοπλευρά [*monopleura*]: a single-column formation: [Ch. 35](#)

μονοφαλαγγία [*monophalaggia*]: a single-phalanx formation: [Ch. 35](#)

ξεναγία [*xenagia*]: another name for a *syntagma*; two combined *taxes*; sixteen files containing 256 men: [Ch. 9, 35](#); sixty-four files of light troops, containing 512 men: [Ch. 16](#)

ξεναγός [*xenagos*]: commander of a *xenagia*: [Ch. 9](#)

ξυστοφόροι [*xestophori*]: ‘pikemen’; mounted troops who carry a long lance but no shield: [Ch. 2](#)

ὁμοιόστομος [*homoiostomos*]: a marching formation with the

different units following in a column: [Ch. 41](#)

ὄμφαλος [*omphalos*]: ‘navel’; one name for the line between two wings of a formation: [Ch. 7, 32](#)

ὀπλιται [*hoplites*]: those armed in the Classical Greek manner with shield, spear, helmet and armour: [Ch. 2, 48](#)

οὐρά [*oura*]: ‘tail’; one name for the left wing of a formation: [Ch. 7](#)

οὐραγός [*ouragos*]: the officer at the rear of a file: [Ch. 5, 26, 27, 33](#); the officer placed at the rear of a formation: [Ch. 9, 14, 16](#); the officer at the rear of a cavalry formation: [Ch. 18, 42, 45](#)

παραγωγή [*paragogē*]: the deduction of a formation to the right or left: [Ch. 23, 35, 36](#)

παραστάτης [*parastates*]: literally, ‘those who stand beside’; men standing to either side of a man in a file, who usually belong to an adjacent file: [Ch. 6](#)

παράταξις [*parataxis*]: ‘edge’; one name for the rank of file-leaders: [Ch. 7](#)

παρεμβολή [*parembolē*]: the insertion of the rear ranks into the front ranks: [Ch. 30](#)

πελτασταί [*peltasts*]: those armed with light armour, small shields and pikes (the forerunner of the hellenistic phalangite): [Ch. 2, 48](#)

πεντακοσιάρχης [*pentacosiarch*]: commander of two *syntagmae*; thirty-two files containing 512 men: [Ch. 9](#); eight files of light troops containing sixty-four men: [Ch. 16](#)

πῆχυσ [*pēchus*]: the cubit; a unit of measure equalling 48cm: [Ch. 11, 13](#)

πεπλεγμένη [*peplegmenē*]: a ‘saw-toothed’ infantry formation: [Ch. 48](#)

περισπασμός [*perispasmos*]: changing the facing of a formation by wheeling through 180 degrees: [Ch. 23, 24, 31, 33](#)

πλαγιοφύλακai [*plagiophylakai*]: the ‘flank guards’ of a cavalry formation: [Ch. 18, 42, 45](#)

πλαίσιον [*plaision*]: a hollow, oblong infantry formation with

light troops arranged in the centre: [Ch. 48](#)

πλινθίον [*plinthium*]: a square formation of heavy infantry: [Ch. 41](#)

πρόενταξις [*proentaxis*]: another term for *prostaxis*, the positioning of troops on the wings: [Ch. 30](#)

πρόσταξις [*prostaxis*]: the positioning of troops on the wings: [Ch. 30](#)

πρόσωπον [*prosopon*]: ‘face’; one name for the rank of file-leaders: [Ch. 7](#)

πρόταξις [*protaxis*]: positioning before the phalanx: [Ch. 23, 30](#)

πρωτολογία [*protolochia*]: the ‘heads of the files’; one name for the rank of file-leaders: [Ch. 7](#)

πρωτοστάτης [*protostates*]: literally, ‘those who stand at the front’; another name for a file-leader (cf. λοχαγός): [Ch. 5, 7, 30](#)

πύκνωσις [*puknosis*]: one name for an intermediate-order formation, with each man occupying a space of 96cm: [Ch. 11, 32](#)

ρόμβοειδής [*rhomboidēs*]: a rhomboid-shaped cavalry formation: [Ch. 18, 19](#)

σαλπιγκτής [*salpigktēs*]: trumpeter: [Ch. 9, 16](#)

σημειφόρος [*semeiphoros*]: standard-bearer: [Ch. 9, 16](#)

στάδιον [*stade*]: a unit of measure equalling 600 Greek feet, or 182m: [Ch. 27](#)

στίφος [*stiphos*]: 512 files of light troops, containing 4,096 men: [Ch. 16](#)

στόμα [*stoma*]: ‘mouth’; one name for the rank of file-leaders: [Ch. 7](#); one name for the line between two wings of a formation: [Ch. 7](#)

στρατηγία [*strategia*]: another name for a *phalangarchia*; two combined *telarchia* or *merarchia*; 256 files, containing 4,096 men: [Ch. 9](#)

στρατηγός [*strategos*]: commander of a *strategia*: [Ch. 9](#)

στρατοκῆρυξ [*stratokērux*]: herald: [Ch. 9, 16](#)

συλλοχισμός [*syllochismos*]: the joining of two files: [Ch. 6](#)

συνασπισμοῖς [*synaspismos*]: the interlocking of shields or ‘shields

brought together'; one name for a close-order formation of 48cm per man: [Ch. 11](#)

σύνταγμα [*syntagma*]: two combined *taxes*; sixteen files, containing 256 men: [Ch. 9, 10](#)

συνταγματάρχης [*syntagmatarch*]: commander of a *syntagma*: [Ch. 9](#)

σύστας [*systasis*]: four files of light troops, containing 32 men: [Ch. 16](#)

σύστρεμμα [*systemma*]: 128 files of light troops, containing 1,024 men: [Ch. 16](#)

συζυγία [*syzugia*]: a group of four chariots: [Ch. 22](#)

ταξίαρχος [*taxiarch*]: commander of a *taxis*: [Ch. 9](#)

τάξις [*taxis*]: two combined *tetrarchiae*; eight files, containing 128 men: [Ch. 9](#)

Ταραντιναρχία [*Tarantinarchia*]: a troop of 'Tarantine' cavalry; two combined *epilarchiae*, containing 256 men: [Ch. 20](#)

τελειάρχης [*teleiarch*]: commander of a *telos*: [Ch. 9](#)

τέλος [*telos*]: another name for a *merarchia*; two combined *chiliarchiae*; 124 files, containing 2,048 men: [Ch. 9](#); two combined *ephipparchiae* of cavalry, containing 2,048 men: [Ch. 20](#)

τετραπλευρά [*tetrapleura*]: a quadruple-column formation : [Ch. 35](#)

τετράρχης [*tetrarch*]: commander of a *tetrarchia*: [Ch. 9](#)

τετραρχία [*tetrarchia*]: two combined *dilochiae*; four files, containing sixty-four men: [Ch. 9, 10, 35](#)

τετραφαλαγγαρχία [*tetraphalangarchia*]: two combined *diphalangarchiae*; 1,024 files, containing 16,384 men: [Ch. 9](#)

τετραφαλαγγία [*tetraphalaggia*]: a quadruple-phalanx formation: [Ch. 35](#)

τριπλευρά [*tripleura*]: a triple-column formation: [Ch. 35](#)

τριφαλαγγία [*triphalaggia*]: a triple-phalanx formation: [Ch. 35](#)

υπερκέρασις [*hyperkerasis*]: outflanking an enemy on one wing: [Ch. 49](#)

υπερφαλάγγησις [*hyperphalangisis*]: outflanking an enemy on

both wings: [Ch. 49](#)

ὕπηρέτης [*hyperetēs*]: aide-de-camp : [Ch. 9, 16](#)

ὕποταξις [*hypotaxis*]: deploying in a crescent-shaped formation:
[Ch. 23, 30](#)

φαλαγγάρχης [*phalangarch*]: commander of a *phalangarchia*: [Ch. 9, 10](#); commander of a group of sixty-four war elephants: [Ch. 22](#)

φαλαγγαρχία [*phalangarchia*]: two combined *telarchia* or *merarchia*; 256 files, containing 4,096 men: [Ch. 9, 10](#)

φάλαγξ [*phalanx*]: a complete formation of joined files; according to Aelian, 16,384 infantry in 1,024 files: [Ch. 7](#); a group of sixty-four chariots: [Ch. 22](#); a group of sixty-four war elephants: [Ch. 22](#)

φάλαγξ λοξή [*phalanx loxē*]: the oblique phalanx: [Ch. 23, 29](#)

φάλαγξ ὀρθία [*phalanx orthia*]: the right-aligned phalanx: [Ch. 23, 29](#)

φάλαγξ πλαγία [*phalanx plagia*]: the transverse phalanx: [Ch. 23, 29, 44](#)

χιλιάρχης [*chiliarch*]: commander of a *chiliarchia*: [Ch. 9](#)

χιλιαρχία [*chiliarchia*]: two combined *pentecosiarchies*; sixty-four files, containing 1,024 men: [Ch. 9](#)

ψιλαγία [*psilagia*]: thirty-two files of light troops, containing 256 men: [Ch. 16](#)

ψιλοί [*psiloi*]: light-armed troops, often employed as skirmishers: [Ch. 2, 15, 48](#)

ψιλοῖς [*psilois*]: light chariots: [Ch. 22](#)

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Plates

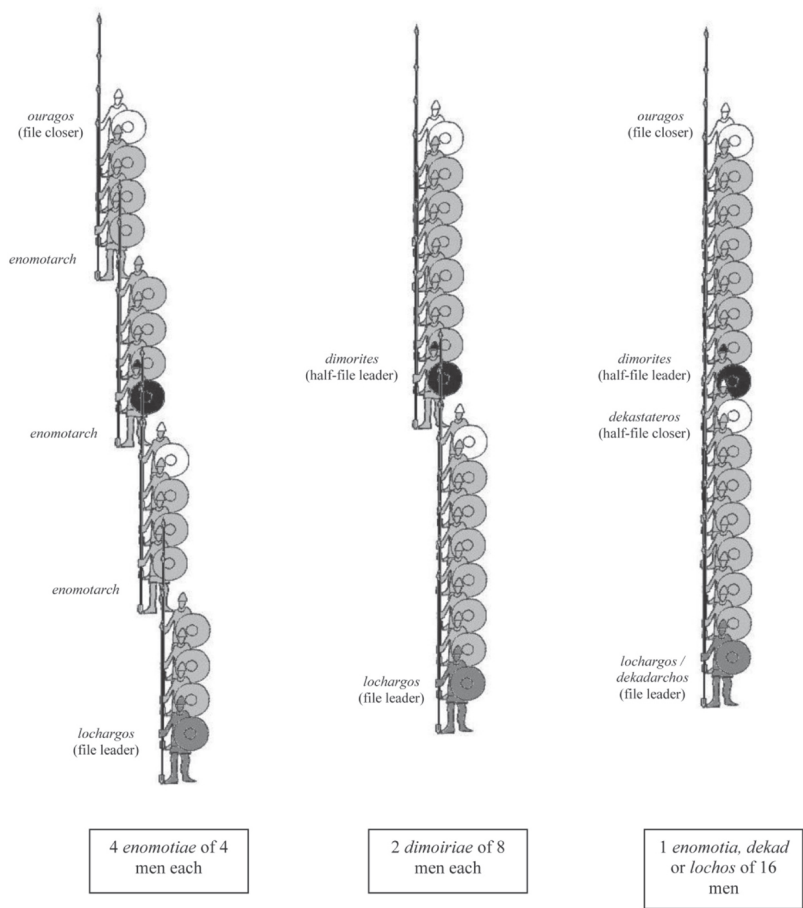


Plate 1 (Chapter 5): The various forms of the file.

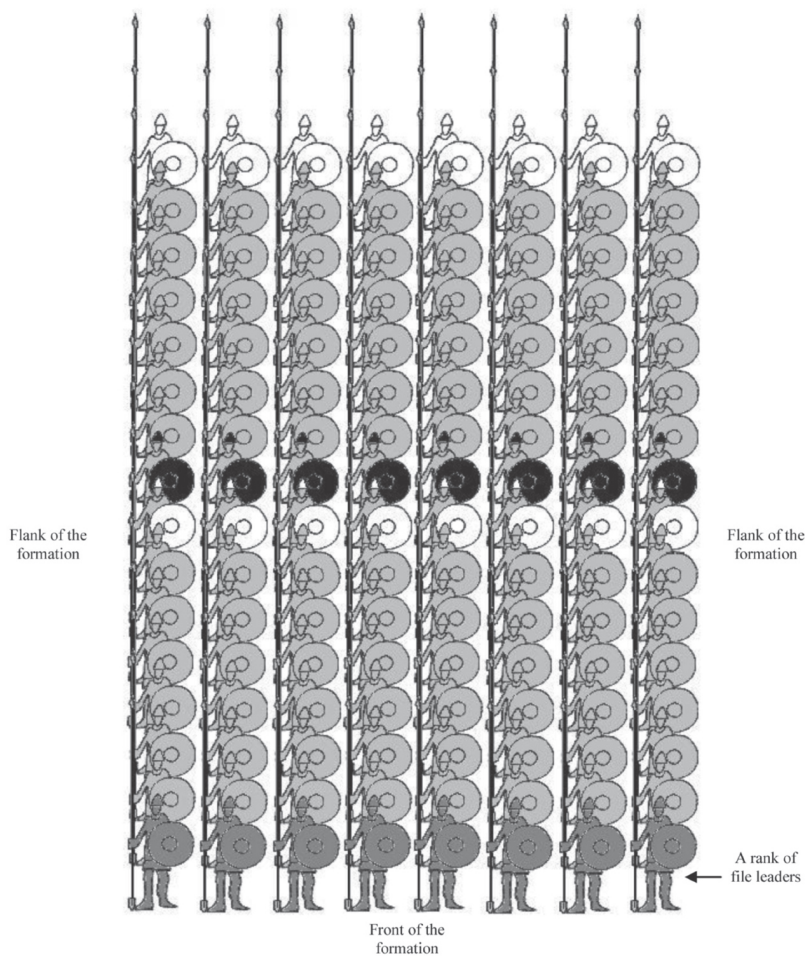
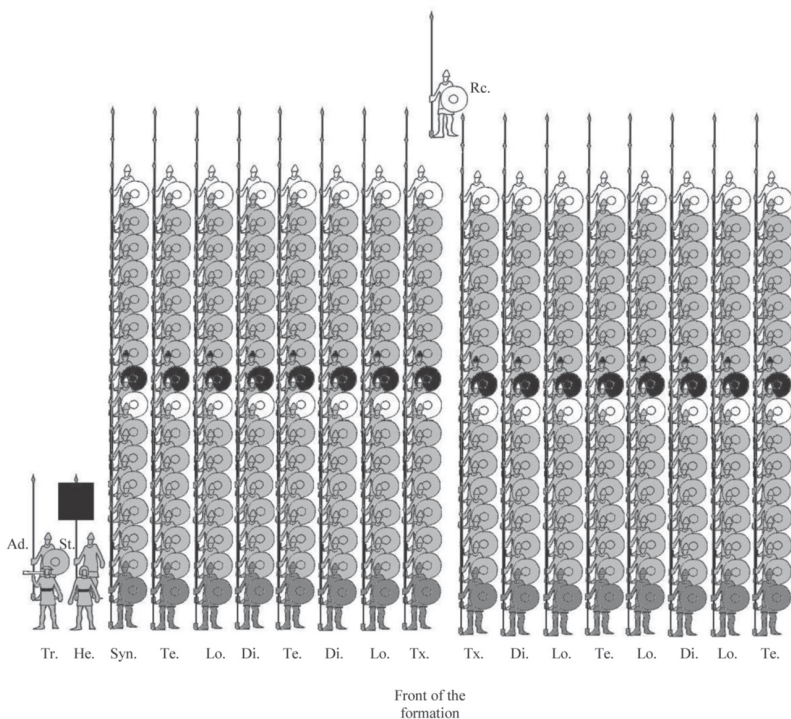


Plate 2 (Chapter 6): Eight joined files.



Ad. = aide-de-camp	St. = standard bearer
Di. = <i>dilochites</i>	Syn. = <i>syntagmatarch</i>
He. = herald	Te. = <i>tetrarch</i>
Lo. = <i>lochargos</i>	Tr. = trumpeter
Re. = rear commander	Tx. = <i>taxiarch</i>

Plate 3 (Chapter 9): One *syntagma* (256 men in sixteen files with five supernumeraries).

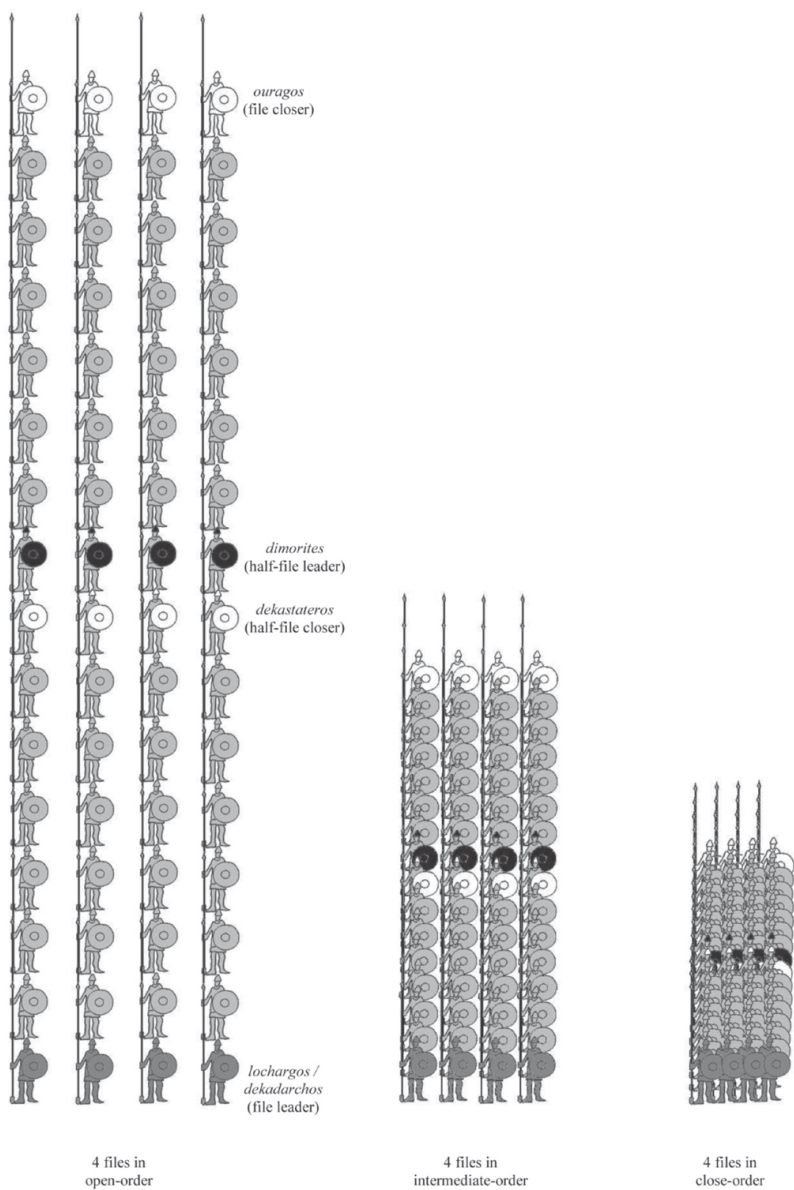


Plate 4 (Chapter 11): The different orders of the phalanx.

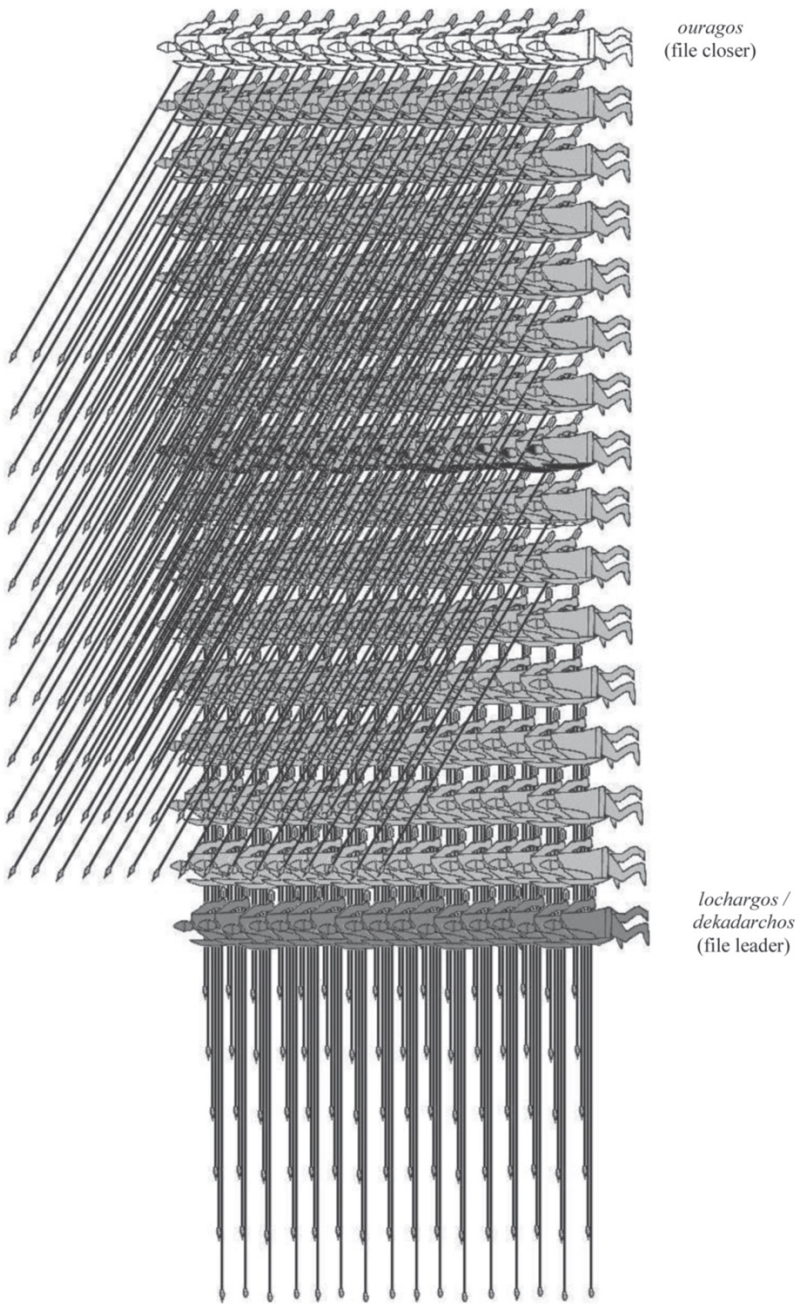
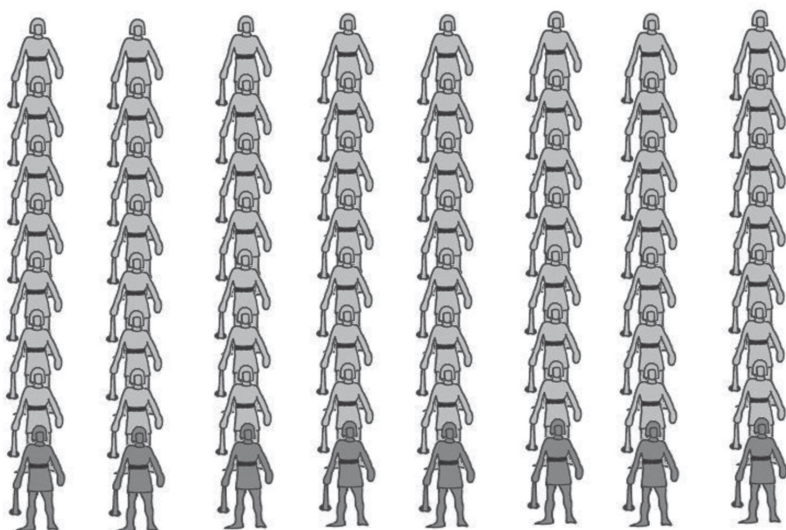


Plate 5 ([Chapter 14](#)): one syntagma deployed for battle showing the

projection of the pikes ahead of the formation.



Front of the
formation

Plate 6 (Chapter 16): One *pentacontarchia* of slingers (sixty-four men in eight files).

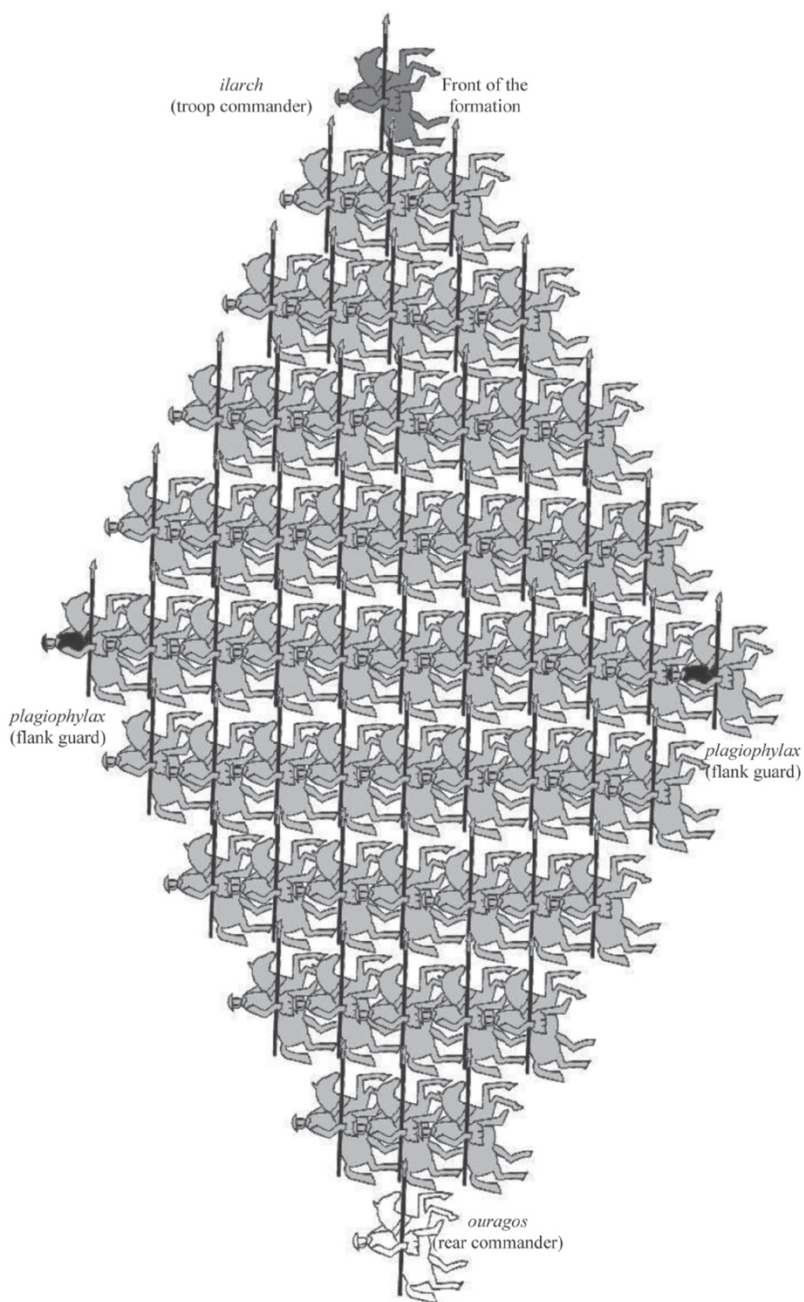


Plate 7 (Chapter 18): Cavalry arranged in a rhombus by ranks and files.

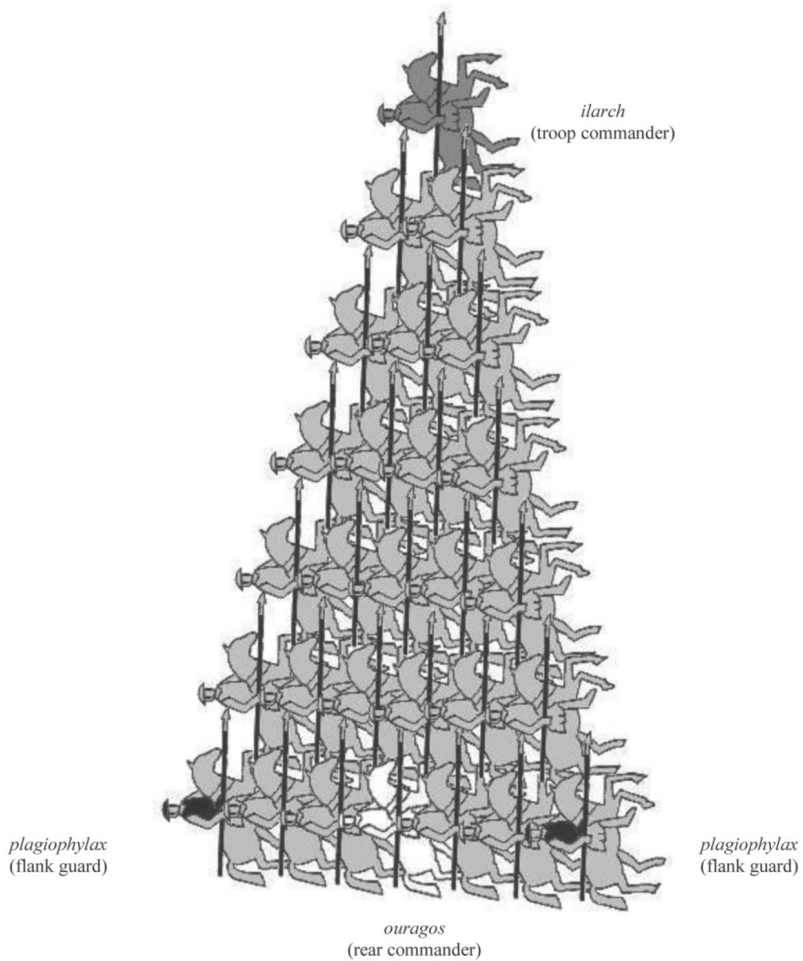


Plate 8 (Chapter 19): A wedge of cavalry.

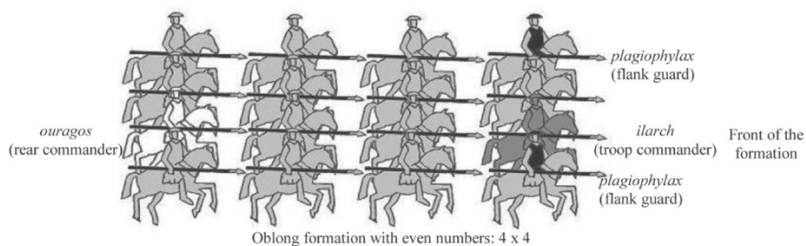
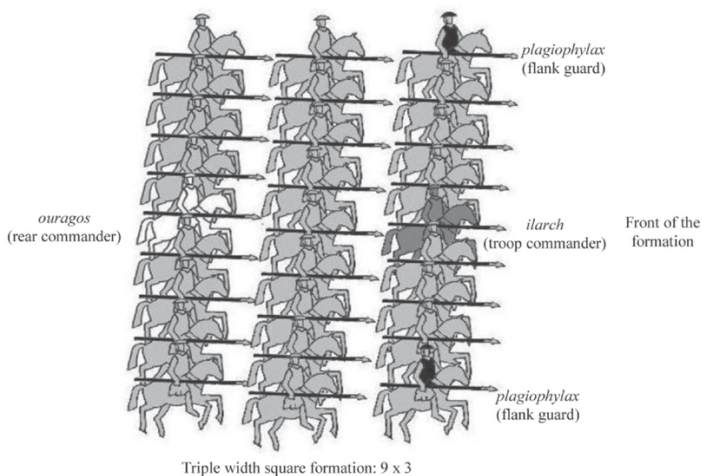
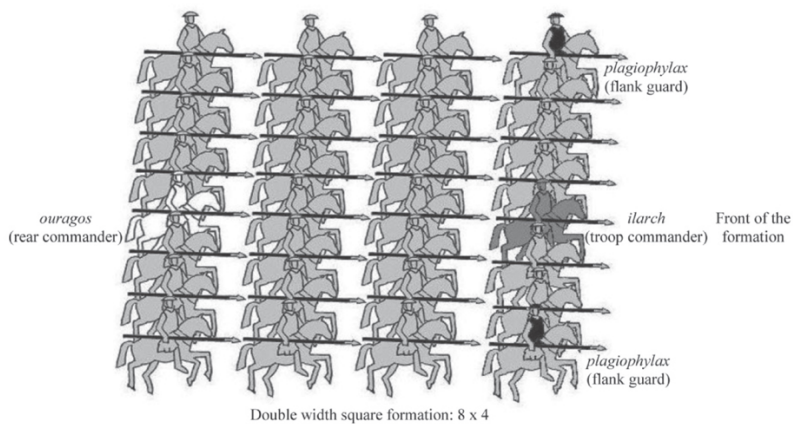


Plate 9 (Chapter 18): Variations of the cavalry square.

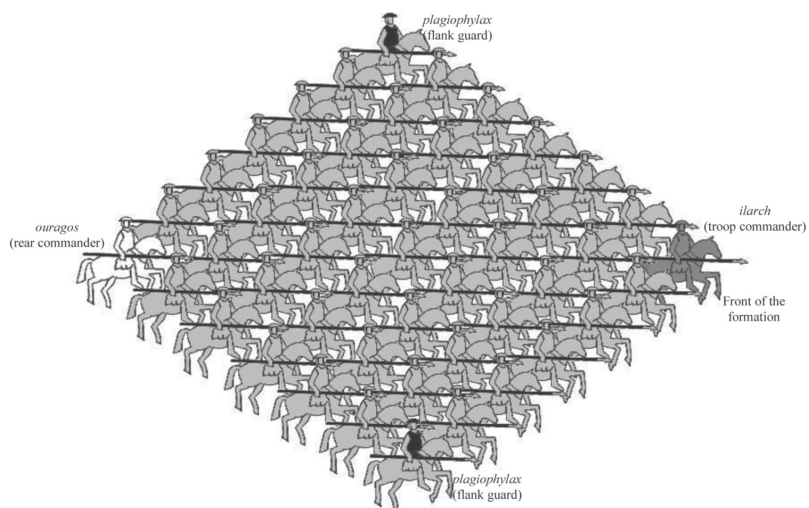
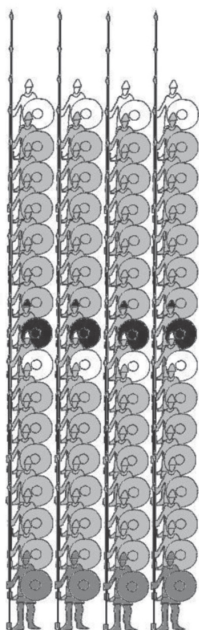
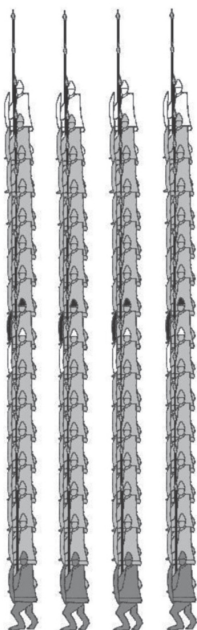


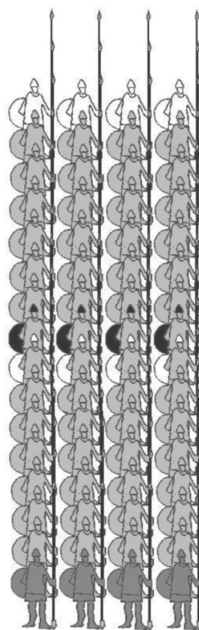
Plate 10 (Chapter 19): Cavalry arranged in a rhombus with files but no ranks.



Original position
(direction of facing = ↓)



A *klisis* (turn) to the right
(direction of facing = ←)



Metabolē (about face)
(direction of facing = ↑)

Plate 11 (Chapter 24): Changing the soldiers facing.

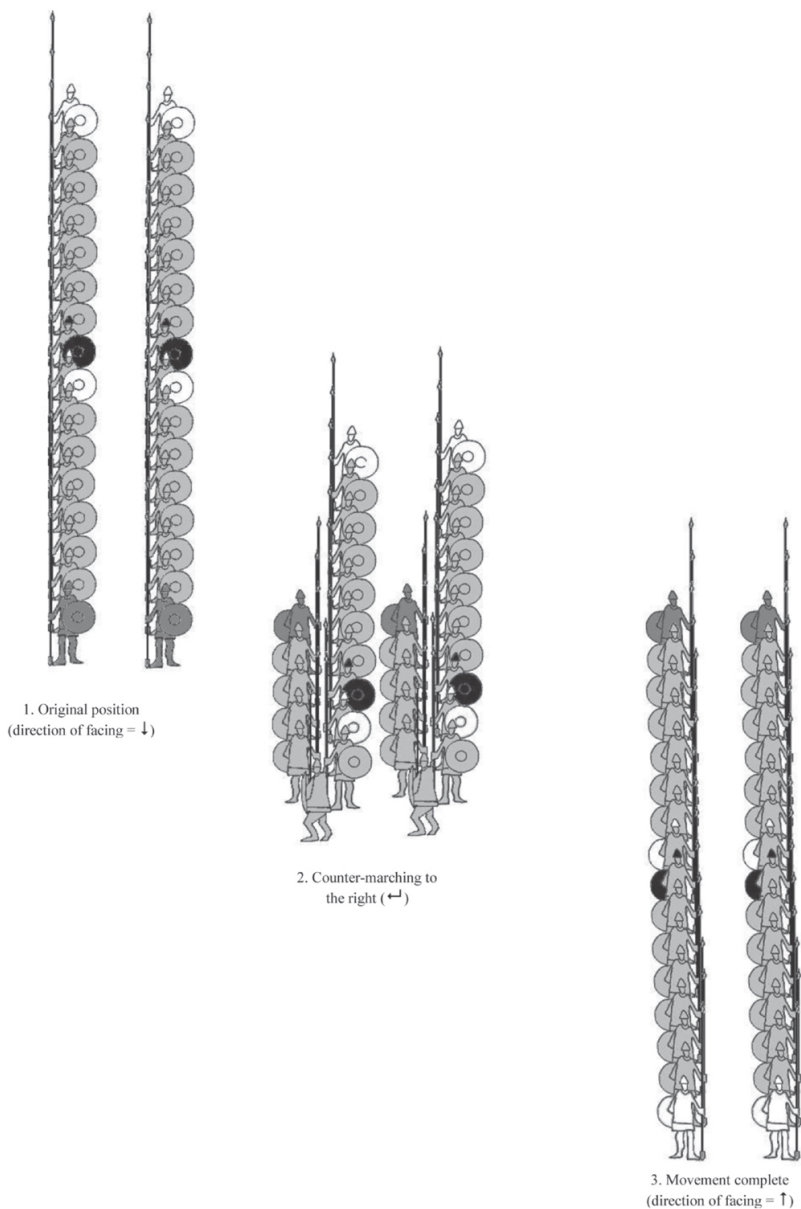
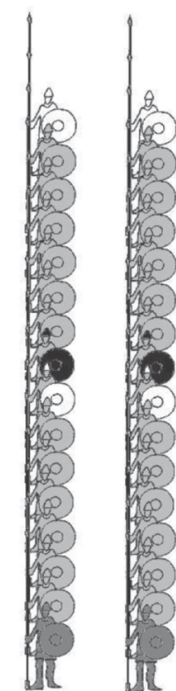
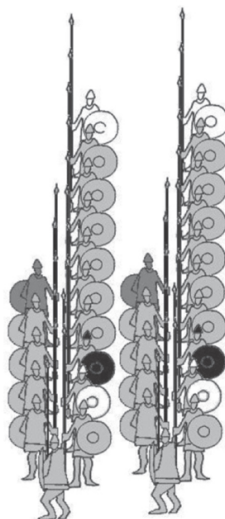


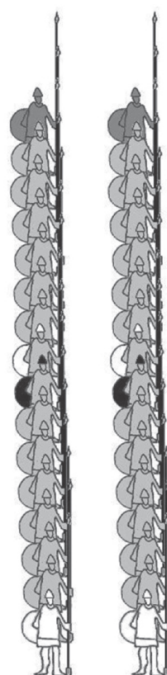
Plate 12 (Chapter 27): The Macedonian Counter-march.



1. Original position
(direction of facing = ↓)

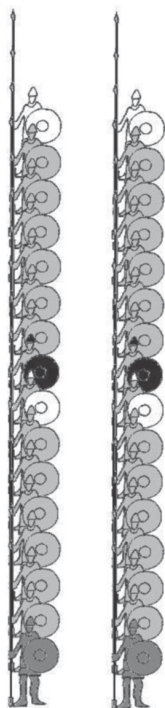


2. Counter-marching to
the right (→)

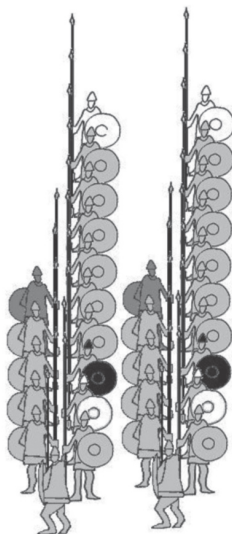


3. Movement complete
(direction of facing = ↑)

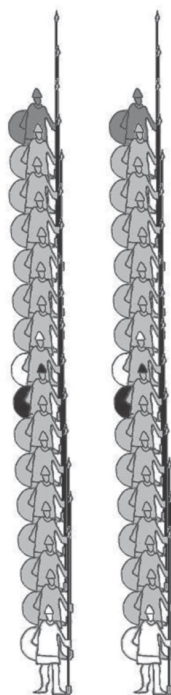
Plate 13 (Chapter 27): The Lacedaemonian Counter-march.



1. Original position
(direction of facing = ↓)

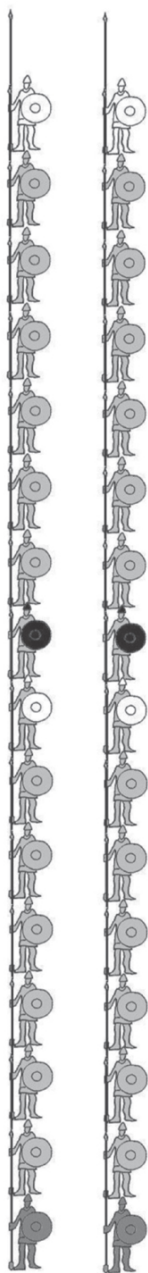


2. Counter-marching to
the right (↗ ↓)

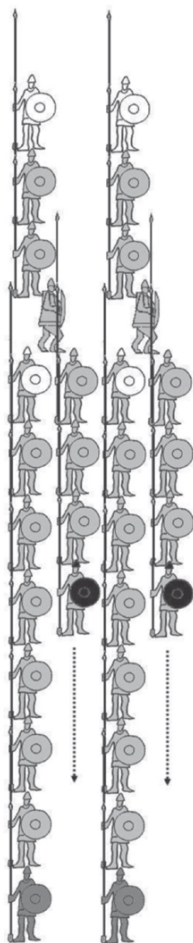


3. Movement complete
(direction of facing = ↑)

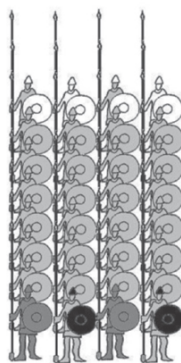
Plate 14 (Chapter 27): The Choral/Cretan/Persian Counter-march.



1. Two files in open-order



2 Doubling the files



3. Four half-files in intermediate-order

Plate 15 (Chapter 28): Doubling the number of files.

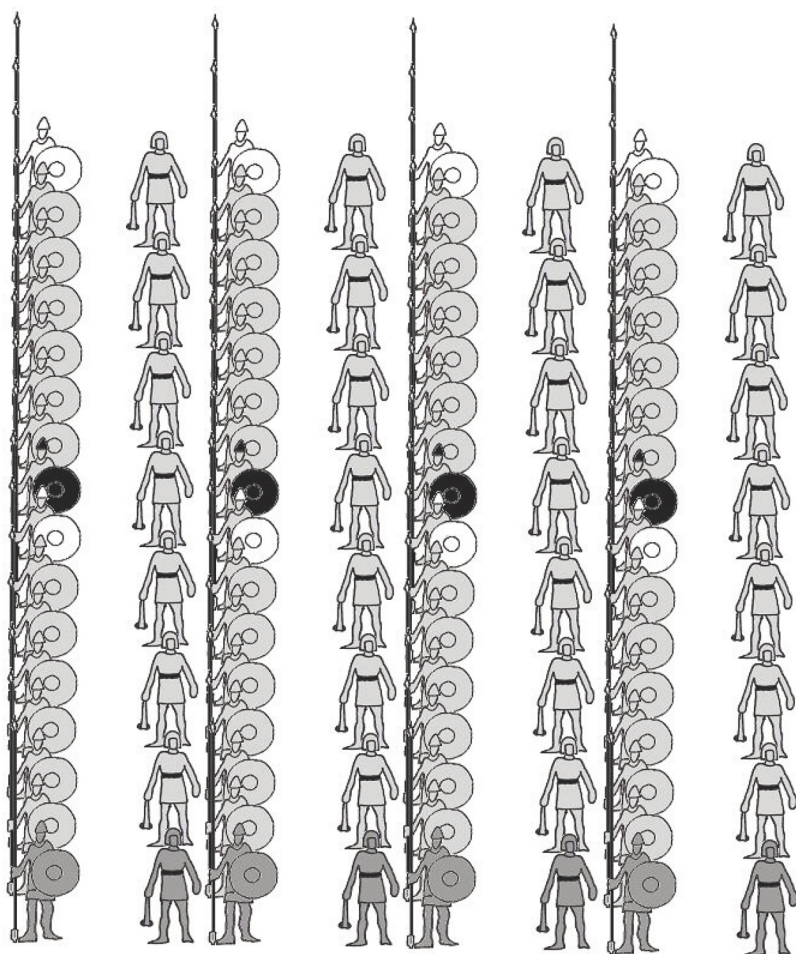


Plate 16 (Chapter 30): *Entaxis*.

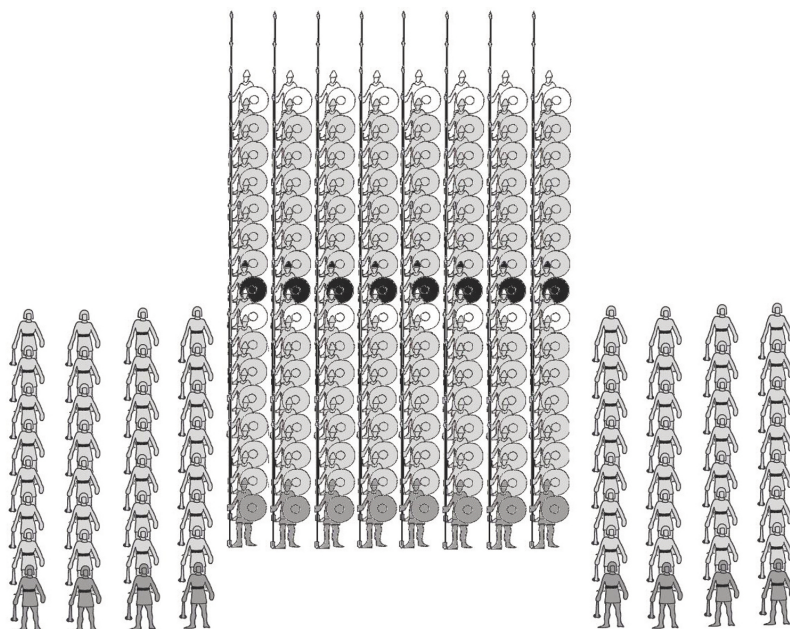


Plate 17 ([Chapter 30](#)): *Hypotaxis*.

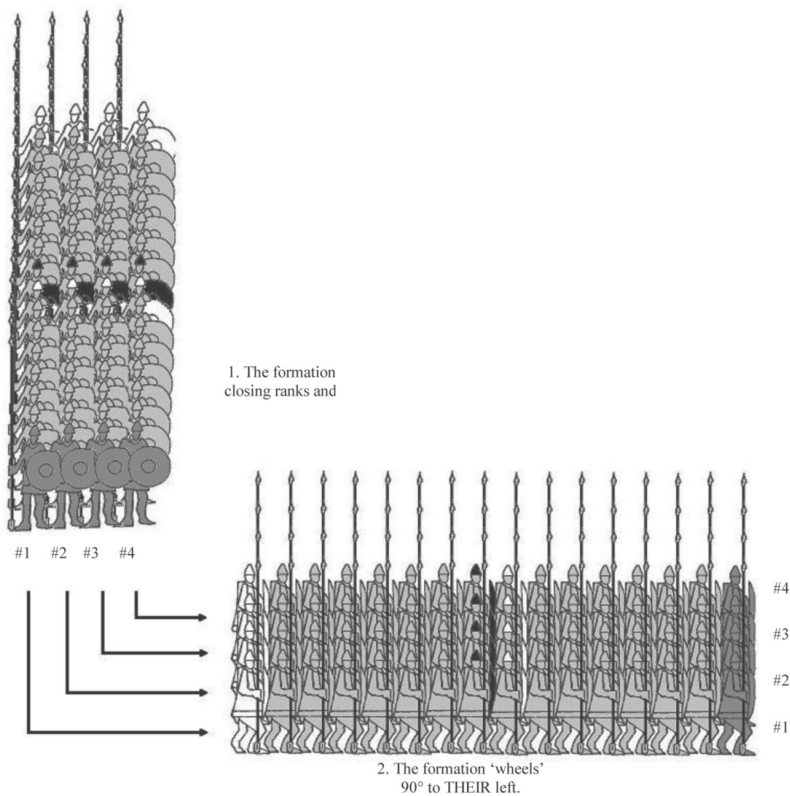


Plate 18 (Chapter 31): Wheeling to the left.

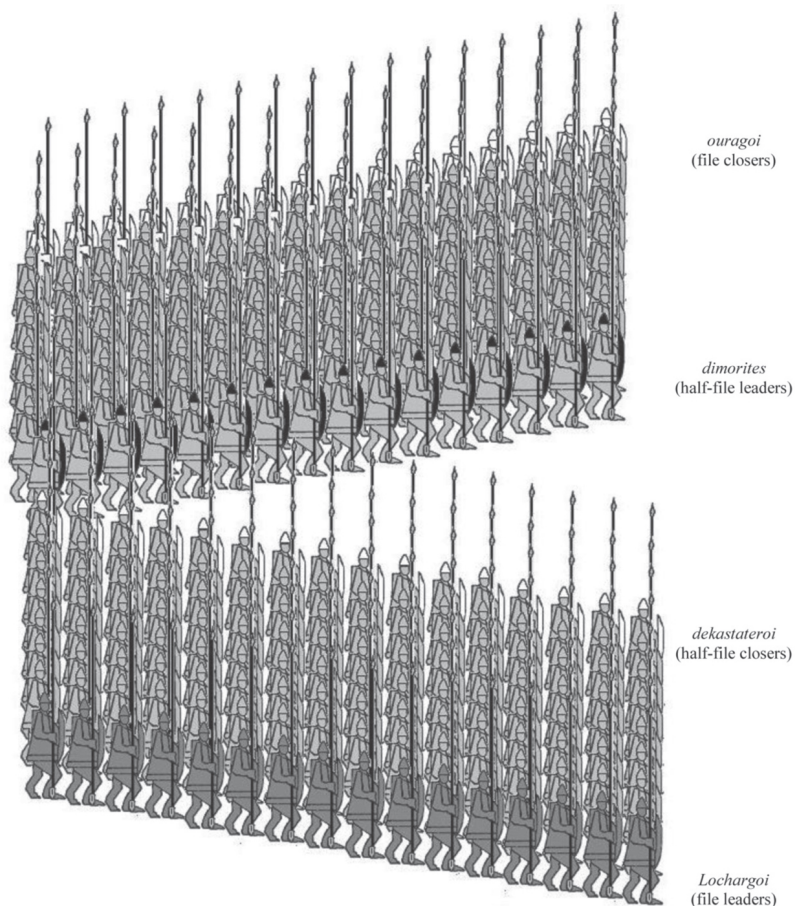


Plate 19 (Chapter 35): The *koelembolus* formation.

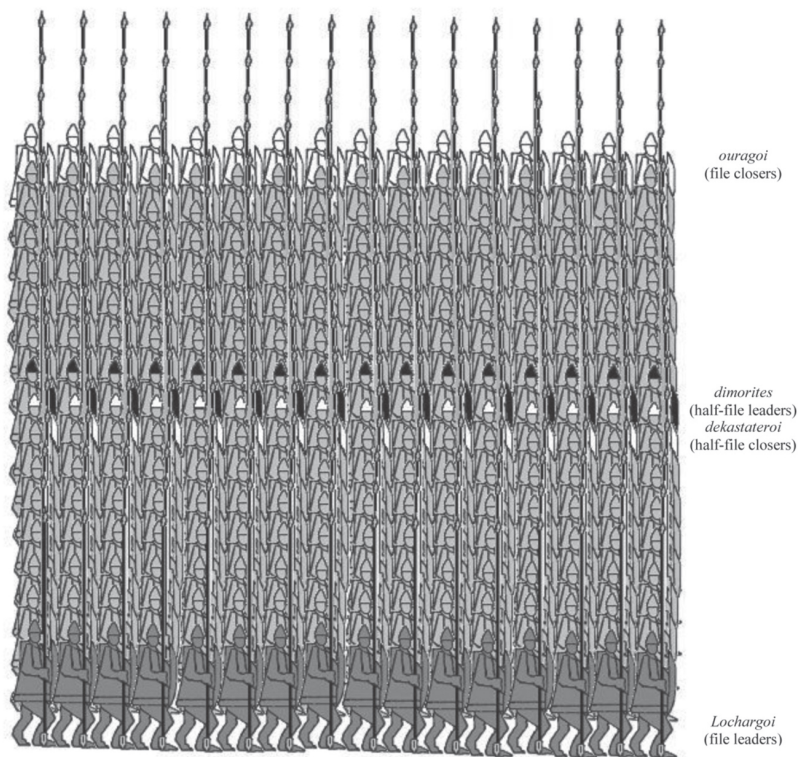


Plate 20 (Chapter 36): One *syntagma* ‘deducted’ to the right.

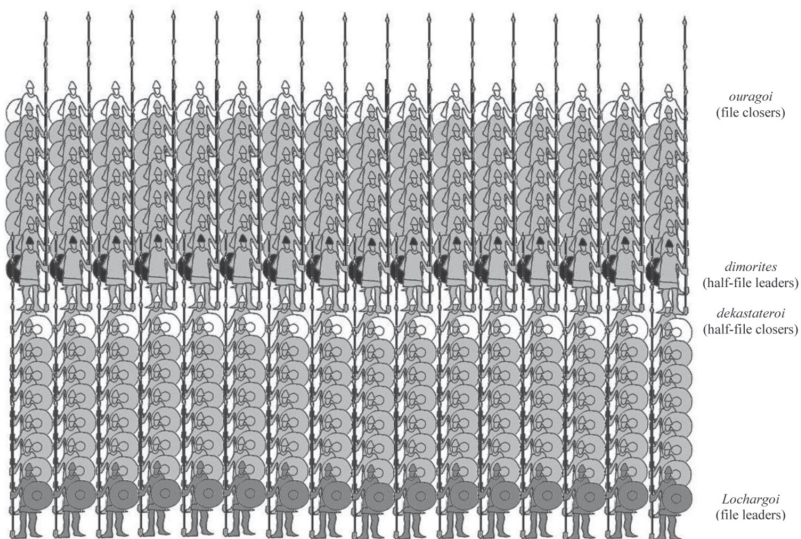


Plate 21 (Chapter 37): One *syntagma* arranged as an *antistomos* formation

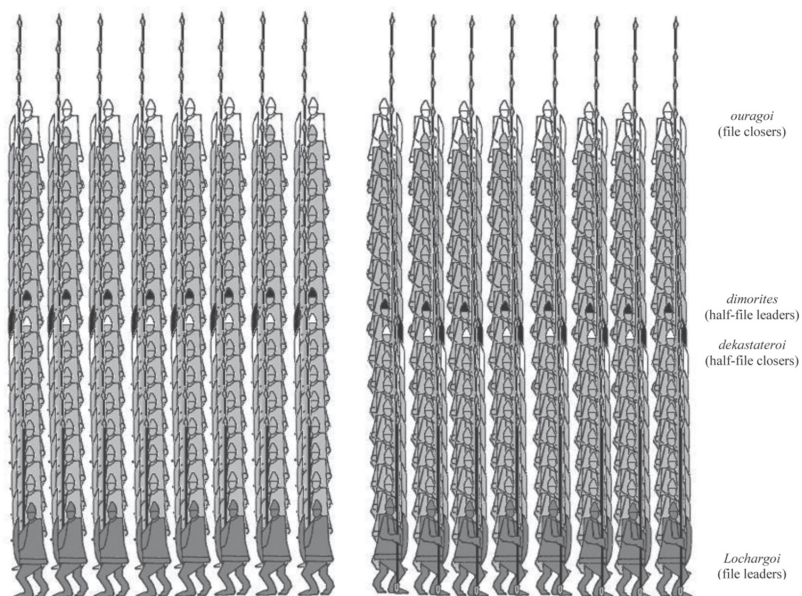


Plate 22 (Chapter 38): One *syntagma* arranged as an *amphistomos* formation.

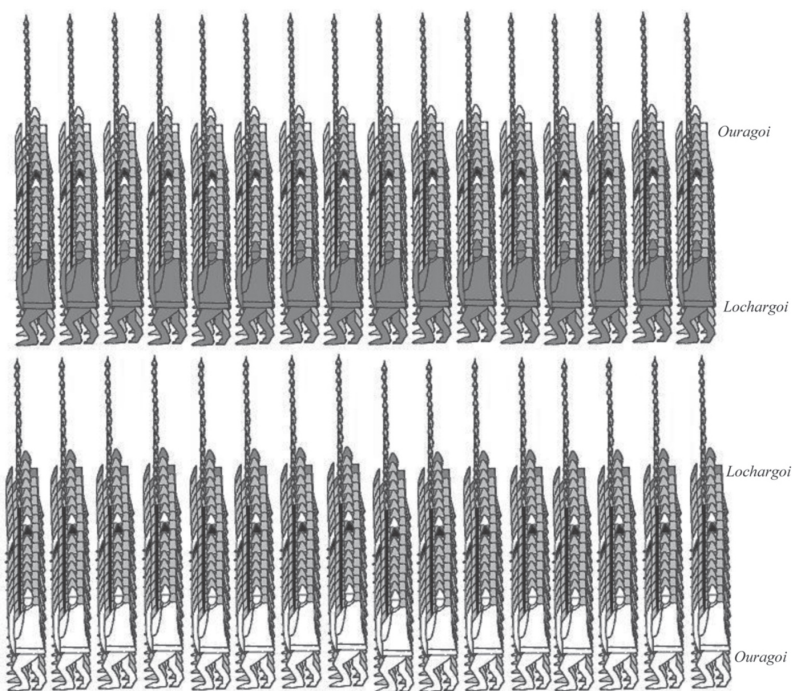


Plate 23 (Chapter 39): The *antistomos diphalangarchia* formation.

Lochargoi

Ouragoi

Direction of Advance →

Ouragoi

Lochargoi

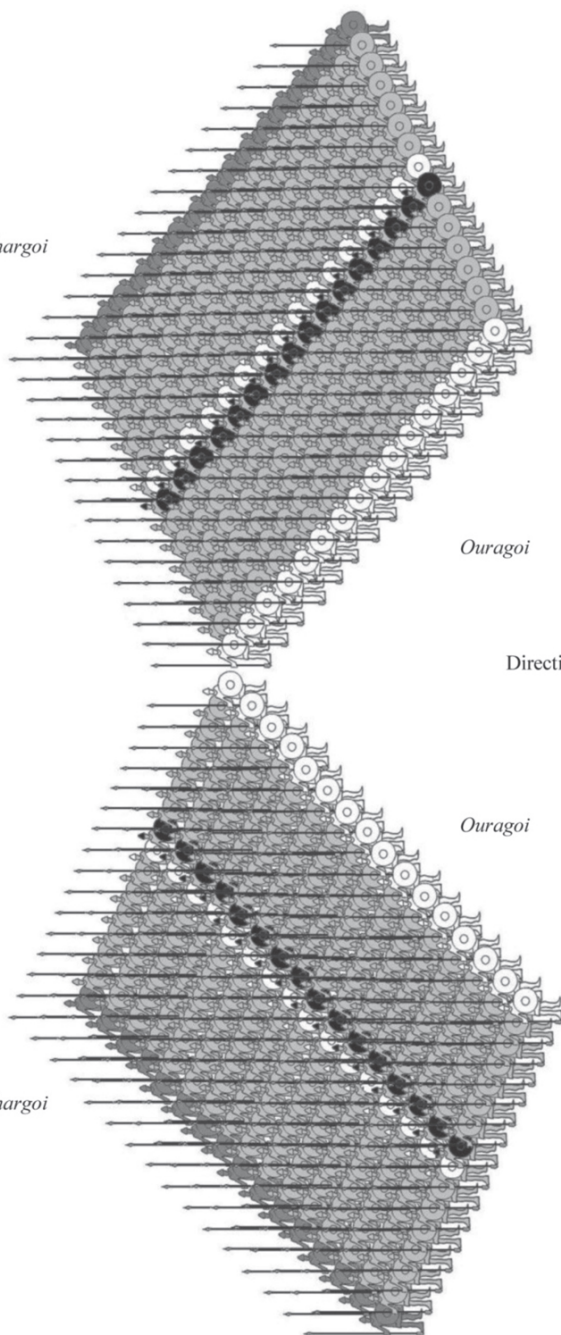
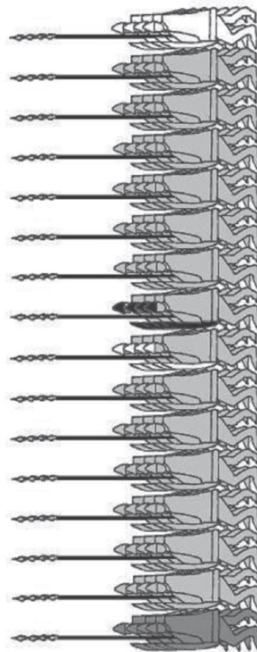


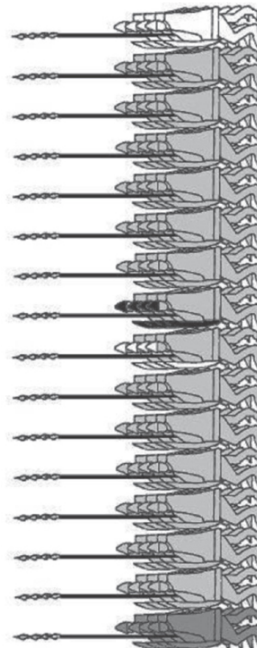
Plate 24 (Chapter 40): Two *syntagmae* arranged in a *peristomos diphalangarchia* formation.



ouragoi
(file closers)

dimorites
(half-file leaders)
dekastateroi
(half-file closers)

Lochargoi
(file leaders)



ouragoi
(file closers)

dimorites
(half-file leaders)
dekastateroi
(half-file closers)

Lochargoi
(file leaders)

Plate 25 (Chapter 41): Two *tetrarchia* marching in a *homoiostomos* formation.

Lochargoi



Ouragoi

Ouragoi



Lochargoi

Plate 26 (Chapter 42): Two *syntagmae* marching in a *heterostomos* formation.

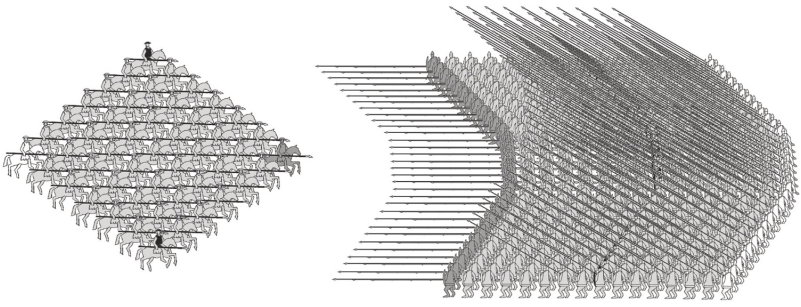


Plate 27 (Chapter 43): The cavalry rhombus and the half-moon infantry formation.

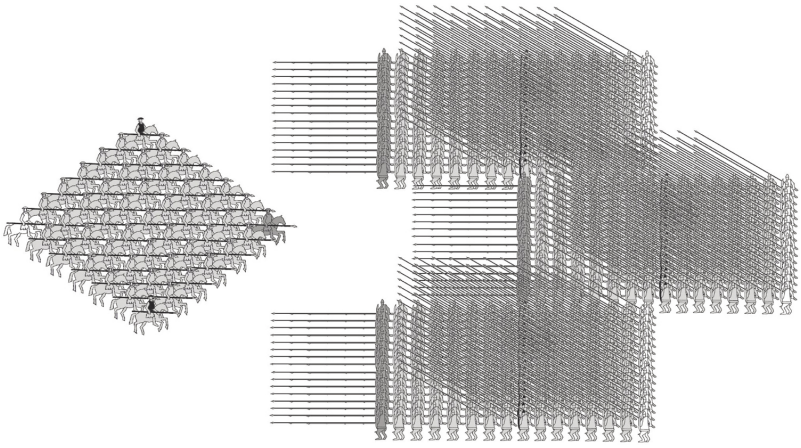


Plate 28 (Chapter 45): The cavalry rhombus and the *epicampios emprosthia* infantry formation.

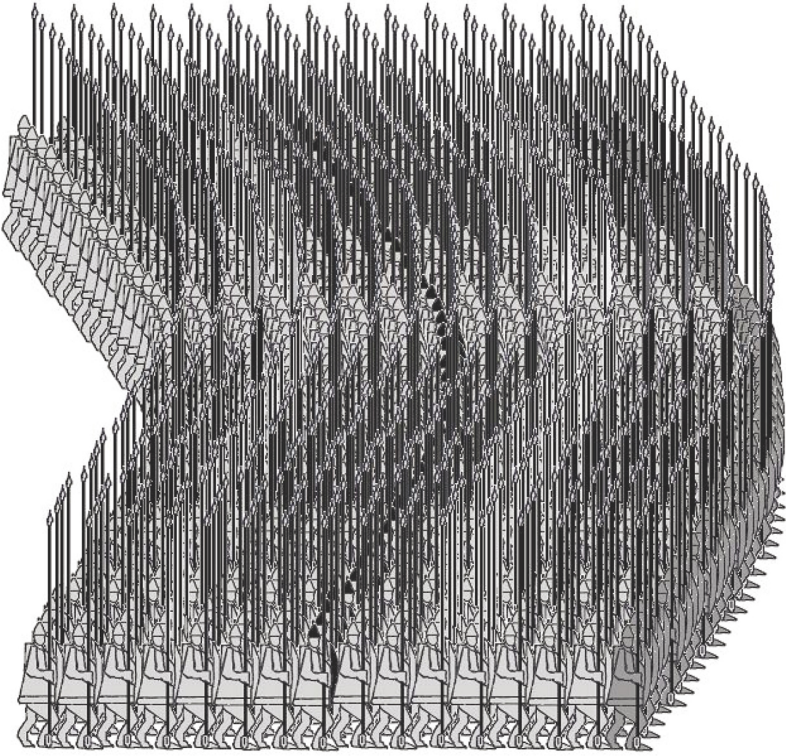


Plate 29 (Chapter 46): The *kyrtē* infantry formation.

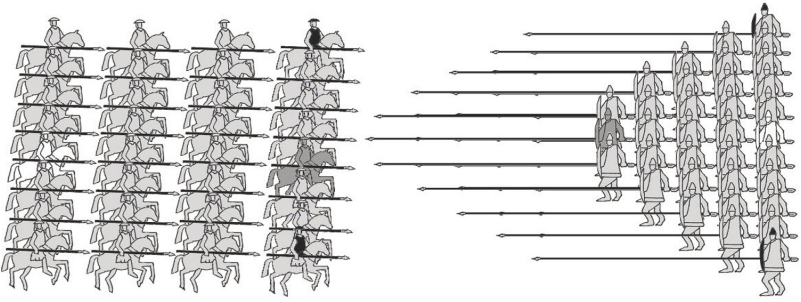


Plate 30 (Chapter 47): The square cavalry formation and the infantry wedge.

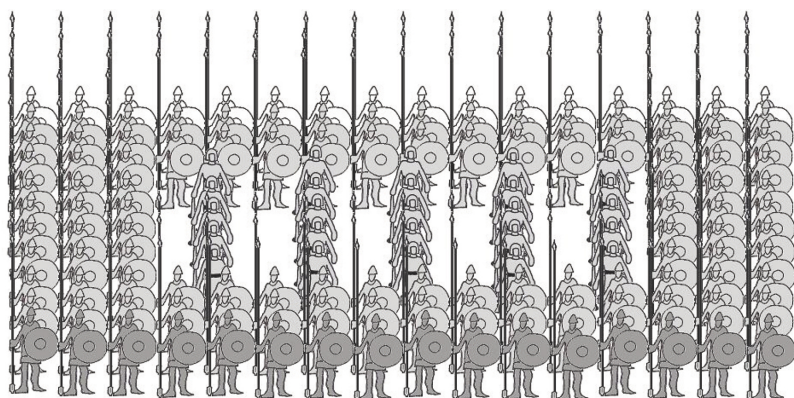


Plate 31 ([Chapter 48](#)): The *plaision* infantry formation.

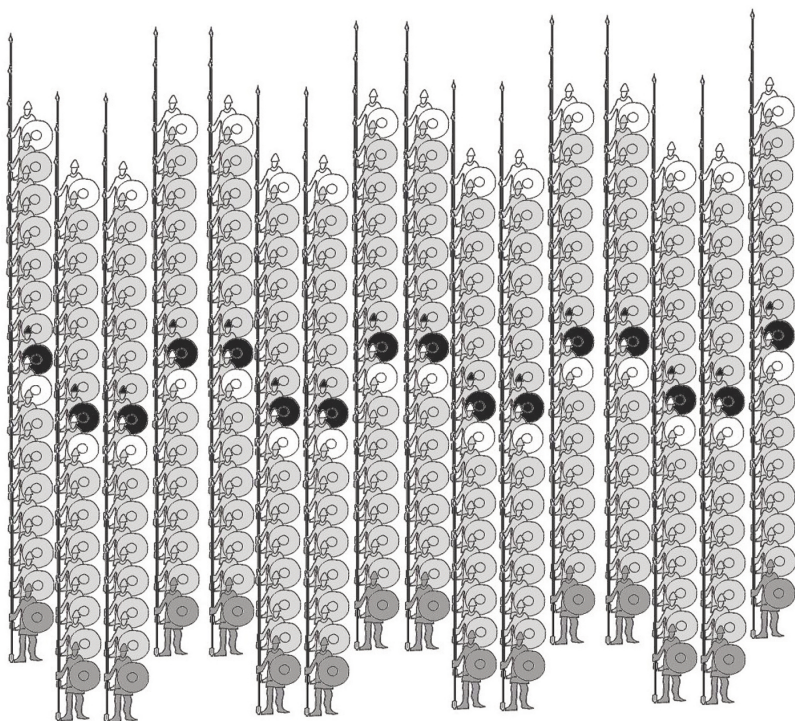


Plate 32 (Chapter 48): The *peplegmenē* or 'saw tooth infantry formation.